Aug 89

(1)

EXTERNAL CAUSES OF SMALL CONSTRUCTION FIRM FAILURES

A Special Research Problem

Presented to

The Faculty of the School of Civil Engineering
Georgia Institute of Technology

by

Thomas J. Foust

In Partial Fulfillment
of the Requirements for the Degree of
Master of Science in Civil Engineering

GEORGIA INSTITUTE OF TECHNOLOGY
A UNIT OF THE UNIVERSITY SYSTEM OF GEORGIA
SCHOOL OF CIVIL ENGINEERING
ATLANTA, GEORGIA 30332

N00228-85-G-
324

EXTERNAL CAUSES
OF
SMALL CONSTRUCTION FIRM
FAILURES

A Special Research Problem

Presented to

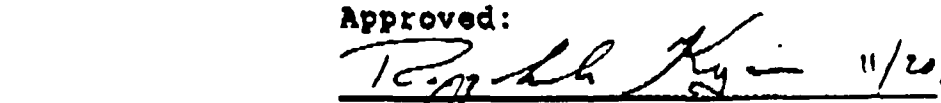
The Faculty of the School of Civil Engineering
Georgia Institute of Technology

by

Thomas J. Foust

In Partial Fulfillment
of the Requirements for the Degree of
Master of Science in Civil Engineering

Approved:



Faculty Advisor/Date

Reader/Date

Dedication

This masters degree research problem is dedicated to my grandfather Johnny McFall whose love of life taught me so much. It is memories of his daily endeavors and energetic manner that I draw on when I am in need of determination and perseverance.

I would like to thank my wife Lisa and children Caroline and Joshua for their understanding, support, and patients during my work on this paper, without these efforts on their part I could never have finished.

I would also like to thank the individuals that took time out of their busy schedules to allow me to interview them. They provided valuable insight and direction into this little researched topic and were extremely helpful in providing additional sources of information.

And finally I would like to thank the US Navy for sending me to graduate school. It is their trust and confidence in me as a professional that has afforded me this opportunity to raise my level of education one step further.

Table Of Contents

List of Tables

List of Figures

CHAPTER 1

INTRODUCTION AND OBJECTIVES

1.1 Introduction

The construction industry is the largest small business dominated industry in the US. It historically makes up about 10 percent of our Gross National Product and consumes about 5 percent of the US labor force. The construction industry is made up of nearly 570,000 contractors[2] of varying size throughout the US. However, one-half of all construction firms in business today will not be in business six years from now, according to the Associated General Contractors.

For the purposes of this study the word "contractor" is taken to mean construction contractor, whether general, specialty, or subcontractor unless specified otherwise.

Construction is now and has always been a challenging and competitive industry. Courage, optimism, and willingness to work carried yesterday's contractors a long way in the industry. Although these attributes are still required they don't provide the same success as they once did. Today's contractor must have considerable knowledge and great competence in many fields. It is impossible to run today's construction firm by "the seat of ones

---

[1] "Construction Costs Reach Top Floor", **ENR**, 23 March 1989, p. 39.

[2] SBA, **The State Of Small Business: A Report To The President**, Washington DC: Government Printing Office, 1989, p. 90.

pants". Contractors must know how to get financing and hold the confidence of their banks and bonding companies. They must thoroughly understand the principles of engineering and estimating. They must know how to pick jobs which give the largest profit margins and develop a successful bidding strategy that works against tough competitors. They must be familiar with the various forms of insurance to be able to protect their firm from disastrous liability claims. Thorough knowledge of labor relations and laws are essential. Accurate and complete records must be kept of the company's operations to comply with numerous laws, to properly monitor the company's financial stability, and to combat litigation. These are but a few of the requirements of today's successful contractor. Joseph Frein[3] says,"the strongest candidate to head a construction company today would be a man under forty with at least fifteen years of experience in the construction industry preceded by university training and majors in civil engineering, business administration, and contract law."

According to Dun and Bradstreet[4] historically about 92 percent of all construction firm failures occur because of mismanagement

---

[3]Joseph P. Frein, **Handbook of Construction Management and Organization** 2nd Edition, New York: Van Nostrand Reinhold Co, 1980.

[4] Dun & Bradstreet, Business Economics Division, **The Business Failure Record,** 1960 through 1979 and **Commercial Failures In An Era Of Business Progress 1900-1952,** New York: Dun & Bradstreet Inc., 1900-1979. The value of 92 percent is an average value determined from each years failure report for all management related causes of failure listed through 1979. D & B lists non-management causes as Neglect, Fraud, Disaster, and Reason Unknown. Table C-2 in Appendix C shows this tabulation.

in some form or another. The remaining 8 percent is generally considered insignificant and classified as failure due to reasons unknown, fraud, neglect, or disaster. Although the largest portion of this 8 percent is classified as unknown (normally about 5 percent), it is assumed these causes for failure are all external to a firms management. Agreeably the 8 percent is numerically small compared to the other 92 percent, but knowledge of the reasons behind this 8 percent of failures may give a contractor the edge he needs to survive in tough markets. In fact as discussed later in chapter 4, from the newest format of reporting business failures by Dun & Bradstreet it can be determined that non-management causes may account for as much as 20 percent of construction company failures. This larger percentage makes studies such as this even more valid and valuable to today's construction entrepreneur.

1.2 Objectives

This paper attempts to explore the non-management causes of construction firm failures. In this study adequate construction management is assumed and held as a constant so that causes for failure external to a construction firms management can be focused upon. Effort was made when data permitted to limit the scope of this study to small construction firms because of the vastness of the topic and the differences in the strengths and weaknesses of small and large firms. However, as can be seen in Figure 1.1, large construction firms make up only about 2% of the industry and thus most data published about the construction industry in general is

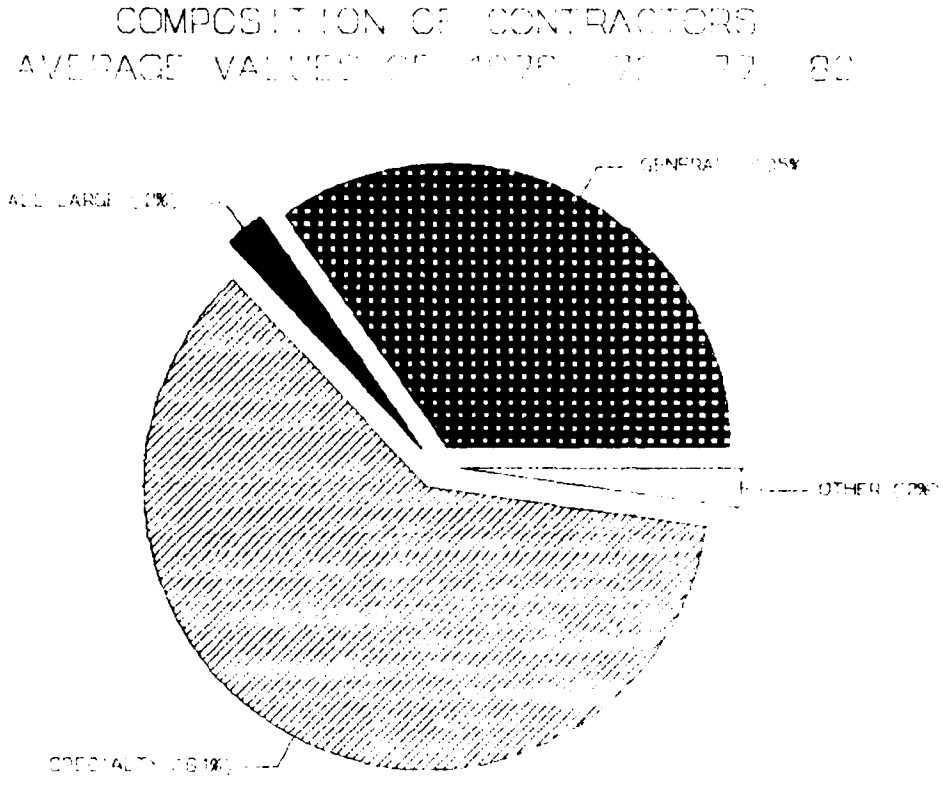


Figure 1.1
Source: See Table C-3.

applicable to both small and large construction firms. Attempts will be made to look for trends, approaches, policies, and types of contractors that are successful in today's small construction industry. In addition to stating conclusions about the findings of this research a guide is presented in Chapter 5 in attempt to assist contractors in protecting themselves from the less controllable pitfalls inherent to the construction industry.

1.3 Information Search and Literature Review

Significant difficulties were encountered in the search for

information and statistics on this topic, even on construction firm failures in general. No single article or publication could be found that dealt specifically or thoroughly with the causes of either large or small construction firm failures. One reason very little information has been published on these failures is there has never been a central organization or agency willing to take on the momentous task of compiling and recording the needed statistics following construction firm failures. Even national surety organizations and surety companies, who's business it is to know why construction firms fail, don't do it[5]. Surprisingly, only 30.9 percent of construction lending officers keep statistics on financial losses caused by contractor failures[6]. The US Small Business Administration (SBA) is attempting to change this, however. For the past several years the SBA has made tremendous efforts at developing a computerized database of the country's small businesses.

The information search for this report began by using the Georgia Tech library on-line information system. Through this service numerous books and magazine articles were found with titles and subject descriptions that suggested great potential for providing information toward this research. Upon review of much of

---

[5] See the various interviews with surety bond associations and agents in Appendix A.

[6] A study by The Surety Association of America and The National Association of Surety Bond Producers, Losses In Private Sector Construction Due to Contractor Failure, Audrey Inc., 1988. pp. 5.

the literature it was discovered the topic of construction firm failures was generally only mentioned in a discussion of some other topic and an analysis of construction firm failures could not be found. In the articles and books reviewed the topic of construction firm failures was continually skirted. Many books, journals, and magazines reviewed such as Engineering News Record were used by plucking bits and pieces of applicable information from each. The most helpful literature found were statistical reports by the SBA and Dun & Bradstreet. These reports provided several statistics on the construction industry. However, again very little explanation was given on construction firm failures. Through local SBA officials, existence of the SBA's central data bank in Washington DC, mentioned above, was learned. With great expectations a letter was mailed to the SBA's Office of Economic Research (a copy of which is provided in Appendix B) which maintains the central SBA database. Although the SBA's database personnel (who are there to provide information to the public) seemed very nice and willing to help, it took 3 or 4 phone calls and a second letter only to receive some not very helpful excerpts from their database and a Dun & Bradstreet report. They did suggest some SBA publications which were found at the Georgia Tech library and proved very helpful. The SBA's written response with data is provided in Appendix B as is all other correspondence generated from this study. A computerized economics database/information service leased from the Wharton Econometrics Forecasting Associates Group on the 3rd floor of the Georgia Tech Price Gilbert Library was another

source used in compiling much of the tables and graphs used in this study.

Manipulation of the statistics from SBA, Dun & Bradstreet, and the Wharton database only yielded marginal insight into the factors effecting the construction industry from a non-management standpoint and thus more information was desired. The author decided to talk to some surety bond companies since they along with the banking industry should deal with contractor failures more than any other group/industry. Originally the objective of the interviews was simply to gain additional written sources of information. As stated earlier this proved futile. There are essentially no statistics kept by surety companies or their professional organizations that would benefit this study. Although the interviews yielded little or no statistical data, they yielded considerable insight and theories on the reasons for non-management contractor failures. These interviews led to letters and some phone interviews with national surety associations as well as other sources. The interviews were not conducted using any scientific format such as asking each person the same list of questions in a particular order or having them fill out a questionnaire. It was the desire of the author not to lead the discussions but to encourage the person being interviewed to provide their own thoughts on what they felt the non-management problems facing construction firms today and in the past are. Some specific questions were necessarily asked from time to time to keep the conversation flowing and within the study's scope. This approach

was felt to be the most advantageous since there are no preliminary studies that could be used to define a list of questions that would not tend to be limiting. All correspondence and interviews are presented in Appendices A and B. A large part of this report was developed from information noted during these interviews.

The Peachtree Corners Library in Gwinette at 5570 Spaulding (phone 729-1028) which contains a substantial business section was investigated at the recommendation of one the Georgia Tech librarians. It proved to be of limited value for this research but other research relating to business may do very well there. Also the Georgia State Library was utilized because the more recent publications of the Dun & Bradstreet Failure Reports were available there.

Two additional sources of information were investigated: the IRS Statistics of Income (SOI) database and local court records both of which proved prohibitive to this research because of the enormous amount of time that would be required to search them. The data that could have been retrieved from the SOI would have been of limited value and for the most part already available through Dun & Bradstreet publications. The court records would probably have been of value but were too vast to search since they are filed by case number not subject.

Despite the authors lack of success when corresponding directly with the SBA for specific data from their database, publications produced from the database were very useful and the database has great potential for future research into the small

construction industry. To have a more accurate and up to date database the SBA is even in 1990 installing a new computer communications network to connect its 10 regional offices as well as its financial operations office in Denver to the agency's computer center in Washington DC[7].

[7] S. A. Masud, "SBA To Get 1st FTS Data Service," **Government Computer News**, 4 September 1989, Vol 8 Number 1 p. 1.

CHAPTER 2

THE SMALL CONSTRUCTION FIRM

2.1 Definitions

The Small Business Administration (SBA) does not have a single definition to differentiate small businesses from large ones. In general it defines a small business as one that is independently owned and operated and not dominant in its field. To be eligible for SBA loans and other SBA assistance, a business must fall within certain size standards as defined by the agency for the particular type of business being conducted. This standard can be based on the annual receipts, assets, net worth, and/or number of employees depending on the type of industry and SBA program. For most industries the size is based on the Standard Industrial Classification (SIC) code defined for each industry by the Department of Labor. The size standard for many industries is based on both gross revenues and number of employees. This will not work for the construction industry however, since contractors with very few employees execute contracts of very large dollar amounts through subcontractors. For the construction industry the size standard is based on gross receipts only. The SBA defines annual receipts as the average gross receipts received over the previous three years, less sales of fixed assets, transfers between affiliates and taxes remitted. Once annual receipts are determined one can simply look through the SIC codes, shown in Table 2.1, and read the corresponding maximum size for a small construction firm in a particular specialty. All construction falls into division

TABLE 2.1

Construction Industry

Standard Industry Classification Codes

SIC	DESCRIPTION	SIZE
	MAJOR GROUP 15-BUILDING CONSTRUCTION -GENERAL CONTRACTORS AND OPERATIVE BUILDERS	
1521	General Contractors-Single Family Houses	$17.00
1522	General Contractors-Residential Buildings Other Than Single Family	$17.00
1531	Operative Builders	$17.00
1541	General Contractors-Industrial Buildings and Warehouses	$17.00
1542	General Contractors-Nonresidential Buildings, Other than Industrial Buildings and Warehouses	$17.00
	MAJOR GROUP 16-CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION-GENERAL CONTRACTORS	
1611	Highway and Street Construction	$17.00
1622	Bridge, Tunnel and Elevated Highway Construction	$17.00
1623	Water, Sewer, Pipeline, Communication and Power Line Construction	$17.00
1628	Heavy Construction, Expert Dredging, N.E.C.	$17.00
1629	Dredging and Surface Cleanup Activities	$ 9.50
	MAJOR GROUP 17-CONSTRUCTION, SPECIAL TRADE CONTRACTORS	
1711	Plumbing, Heating (except electric), and Air Conditioning	$ 7.00
1721	Painting, Paper Hanging, and Decorating	$ 7.00
1731	Electrical Work	$ 7.00
1741	Masonry, Stone Setting, and Other Stone Work	$ 7.00
1743	Plastering, Drywall, Acoustical, and Insulation Work	$ 7.00
1751	Carpentry	$ 7.00
1752	Floor Laying and Other Floor Work	$ 7.00
1761	Roofing and Sheet Metal Work	$ 7.00
1771	Concrete Work	$ 7.00
1781	Water Well Drilling	$ 7.00
1791	Structural Steel Erection	$ 7.00
1793	Glass and Glazing Work	$ 7.00
1794	Excavation and Foundation Work	$ 7.00
1795	Wrecking and Demolition Work	$ 7.00
1796	Installation or Erection of Building Equip.,N.E.C	$ 7.00
1799	Special Trade Contractors, N.E.C.	$ 7.00

Notes: Size standards preceded by $ are in millions of dollars.
N.E.C. - Not Elsewhere Classified
Mining and Quarrying of non-metallic minerals, except fuels, are included under major group 14. All SICs under group 14, related to the construction industry, have size standards of 500 employees.

Source: SBA Regional Office in Atlanta Georgia.

"C" of the Standard Industrial Classification system. The SIC codes in general define a small construction firm as a company with annual receipts not exceeding from $7 to $17 million dollars depending upon the type of contractor. A sharp change occurs in the size definition however, when a contractor seeks surety guarantees from the SBA. In order for a construction firm to qualify for a SBA guaranteed surety bond the firms average annual receipts for the past three years cannot exceed $3.5 million dollars.

Another term that needs to be clearly defined is business failure. This study will use the Dun & Bradstreet definition of business failure since much of their statistics are used in this report. Dun & Bradstreet defines a business failure as any business that ceased operations following assignment of bankruptcy; ceased with loss to creditors after such actions as execution, foreclosure or attachment; voluntarily withdrew leaving unpaid obligations; were involved in court actions such as receivership; reorganization or arrangement; or voluntarily compromised with creditors [Dun & Brad87]. Businesses that discontinue operations (for reasons of difficulty or not) and have paid their creditors in full are not recorded by Dun & Bradstreet as failures. Dun & Bradstreet suggests that business discontinuances with loss to creditors only make up a small percentage of the total discontinuances that occur each year. In fact Dun & Bradstreet says most withdrawals from their records are transfers of ownership or voluntary liquidations in which there is no loss to creditors. These discontinuances outnumber failures by an estimated 25 to 1 [Dun & Brad60]. Dun &

Bradstreet says they report only failures with loss to creditors because those failures have the most severe impact upon the economy. They also feel discontinuances and failures tend to follow the same trends.

2.2 The Small Business Administration

Due in part to the rate of bankruptcies among small businesses in the early 1950's, and increasing awareness of the important role that small business plays in the American economy and war time strength, congress passed the "Title II Act of July 1953" better known as the Small Business Act of 1953. It is this act that eventually established the SBA and set its goals. The intent of the act was to "aid, counsel, assist, and protect the interests of the country's small businesses". The SBA was given the responsibility of creating a business atmosphere which would foster the economic interests of small business, insure a competitive economic climate, ensure adequate capital is available to small business at reasonable rates, and provide an opportunity for entrepreneurship and inventiveness.

The SBA is able to assist construction companies in many ways but most of which are under utilized. The primary reason for this underutilization of SBA programs is lack of knowledge of the existence of such programs by the business community[1]. The SBA can

---

[1] Alan M. Wironen, **Small Business Administration Impacts On The Construction Industry**, Special Research Problem, Georgia Institute of Technology, School of Civil Engineering, August 1988.

assist contractors through guaranteeing construction bonds of new construction firms that may otherwise be unable to qualify for bonding, secure financing when a firm has not yet established sufficient credit, provide valuable counseling and training in management of the firm, and many other types of assistance. Since the inception of the SBA the nation's small businesses have been gaining strength but for the most part without the help of the SBA. Gaining strength none the less. Through more utilization of the SBA by construction firms, failures could become fewer and more controllable.

2.3 The Present State of the Small Construction Business

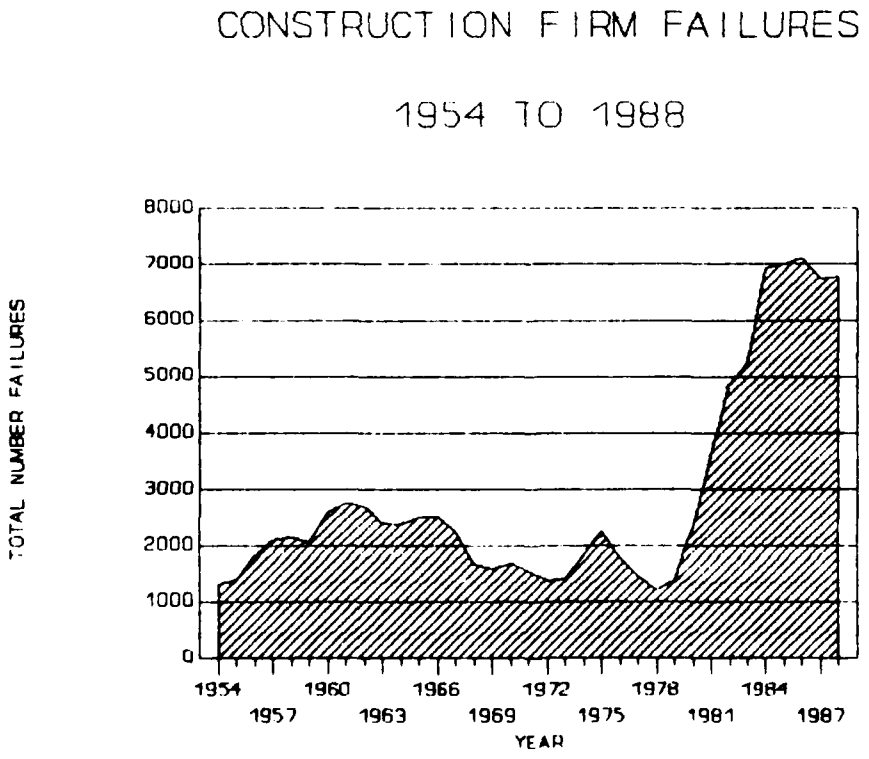


Figure 2.1 Source: See Table C-4

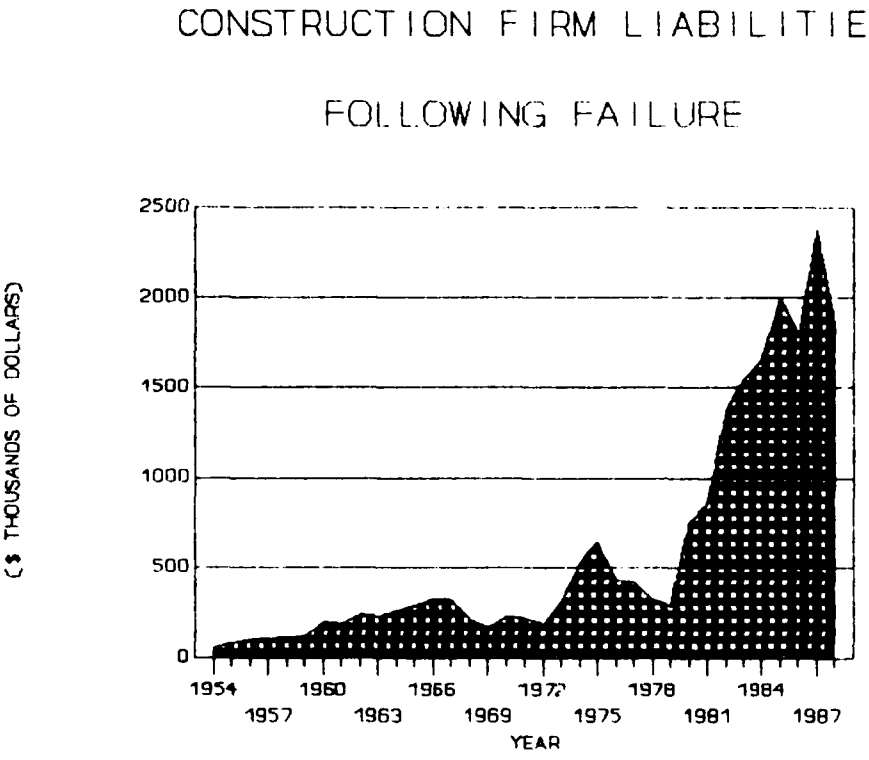


Figure 2.2 Source: See Table C-4

In 1945, according to Dun & Bradstreet, 92 contractors failed leaving total liabilities of $3,600,000. In 1950 there were 912 failures, nearly ten times the amount of 1945. The liabilities increased just over seven times to $25,600,000. In 1960 there were 2600 failures, leaving liabilities of $201 million, which is nearly eight times the liabilities of ten years earlier. In 1967 the number of failures dropped to 2200, but the liabilities increased another 60 percent to $323 million. These trends are clearly depicted in Figures 2.1 and 2.2. Recently in 1986 construction

failures reached an all time high of 7109. But the large number of recent failures has not dampened the entrepreneurial spirit of the construction industry. In 1988 according to the Small Business Administration in its annual address to the President, the construction industry (especially special trade contractors) was one of the fastest growing industries in the US. This is despite an overall downward national trend for all business starts and incorporation. As an additional measure of the health of the construction industry in Figure 2.3 construction firm failures as a percentage of total business failures are plotted. This graph shows that as a percentage of total business failures the construction industry is doing better than it has in the past 30 years. However, as shown in Figure 2.2 a continued trend toward increased liabilities exists. This should be expected however because of the increasing number of contractors and the devaluation of the dollar over time. Accompanying data for all graphs is provided in Appendix-C.

CONSTRUCTION FAILURES

AS A PERCENT OF TOTAL BUSINESS FAILURES

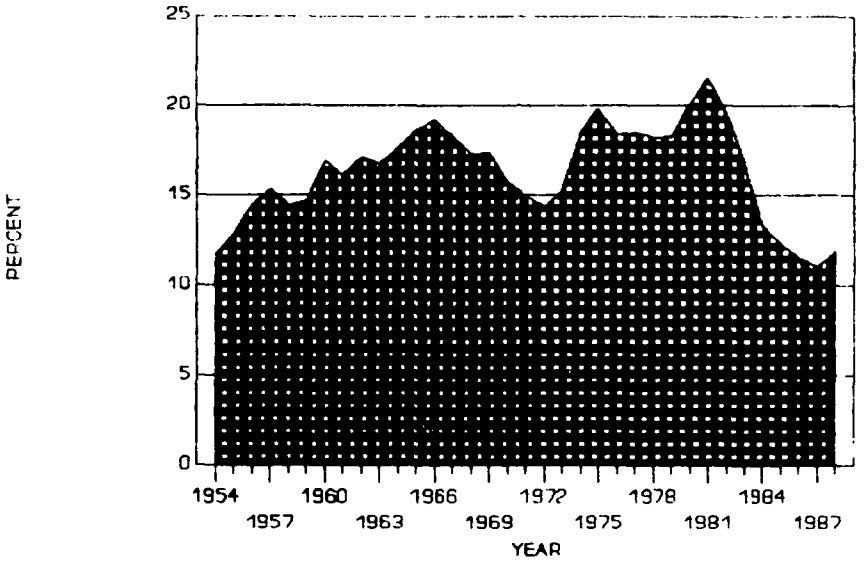


Figure 2.3
Source: See Table C-5

CHAPTER 3

GENERAL STATISTICS

This section contains various findings from the research phase of this study. Except for section 3.5 Construction Surety, the findings are listed singularly under a corresponding general topic heading along with source. They are listed in no particular order and may consist of a single statement, graph, table, or several paragraphs depending upon the subject and depth of explanation necessary to convey the finding. To simplify bibliographical referencing for this chapter referencing is done strictly using brackets "[ ]" which correspond to the bibliography section at the end of this report.

3.1 CONSTRUCTION FIRM STATISTICS

--The total number of construction firms in the US in 1986 was 566,810.

60.5 percent of the firms had only 1 to 4 employees.

87 percent had less than 20 employees.

96.4 percent had less than 50 employees.

99.2 percent had less than 100 employees.[SBA89 p.90]

--Over the past 10 years the percentage of construction firms with <20, <100, <500 employees has remained nearly constant except for a slight shift (about 1 percent) of firms moving into the next larger category. [SBA 88]

--From a financial statistics survey conducted in 1986 it was

determined that small construction firms are on the average receiving an operating profit of 5.6 percent where as firms earning over $50 million in annual revenues reported a median operating profit of only 0.5 percent. [SUB86]

--Profit was better for firms in the northeast that were open shops and doing primarily government work. [SUB86]

--General contractors on the average collect their payments 20 days faster than subcontractors. [SUB86]

--Figure 3.1 suggests an upward trend in construction profits

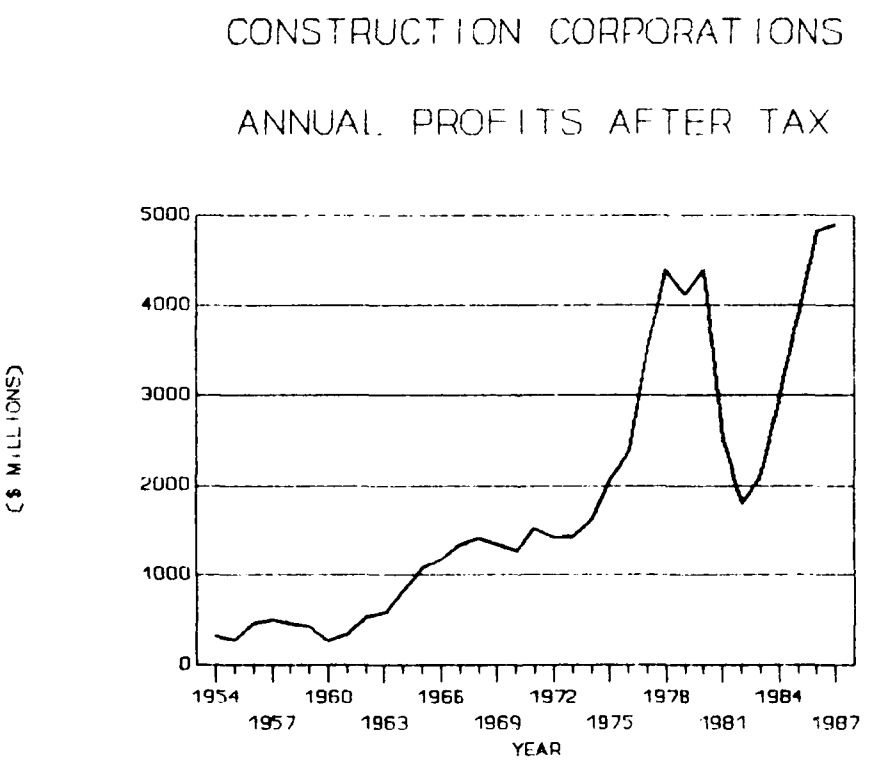


Figure 3.1
Source: Table C-7

despite the large fluctuations following 1975.

--From a study done by Georgia State University in 1979 for the SBA, the fields where new firms have the best chance of success are manufacturing, contract construction, and services. [SBA 81, p.87]

--In 1988 although home building was not a source of major growth in new jobs, employment in housing renovation, remodeling, and repair activity did expand rapidly. [SBA89]

3.2 ECONOMIC TRENDS

--In 1987 private sector construction represented about 7.5%

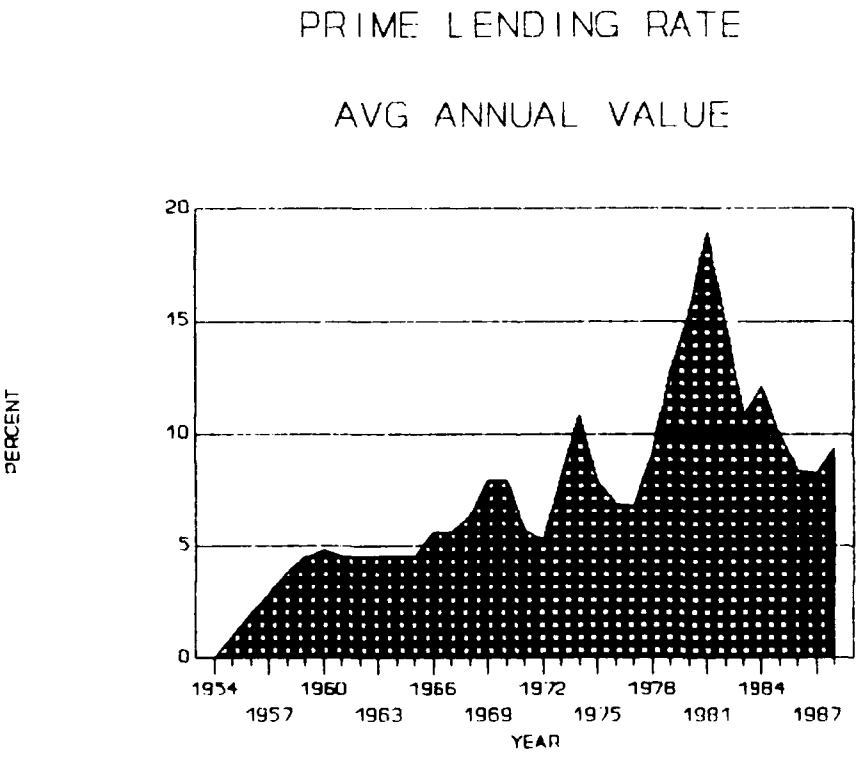


Figure 3.2
Source: Table C-6

of the GNP. Private construction spending for 1986 constituted 83% of total construction spending. Private construction spending was estimated to be 64% in 1976 [SAA&NASPB88, pp.1-2]. This could indicate a rise in private spending or a drop in government spending. A drop in government sending is more likely.

-- The prime lending rate (set by the Federal Reserve) reflects a trend toward increasing interest rates. Figure 3.2 (a graph showing a 35 year history of the prime rate) when compared to Figure 2.1 (construction failures) displays a trend that suggests the prime rate leads construction firm failures by at

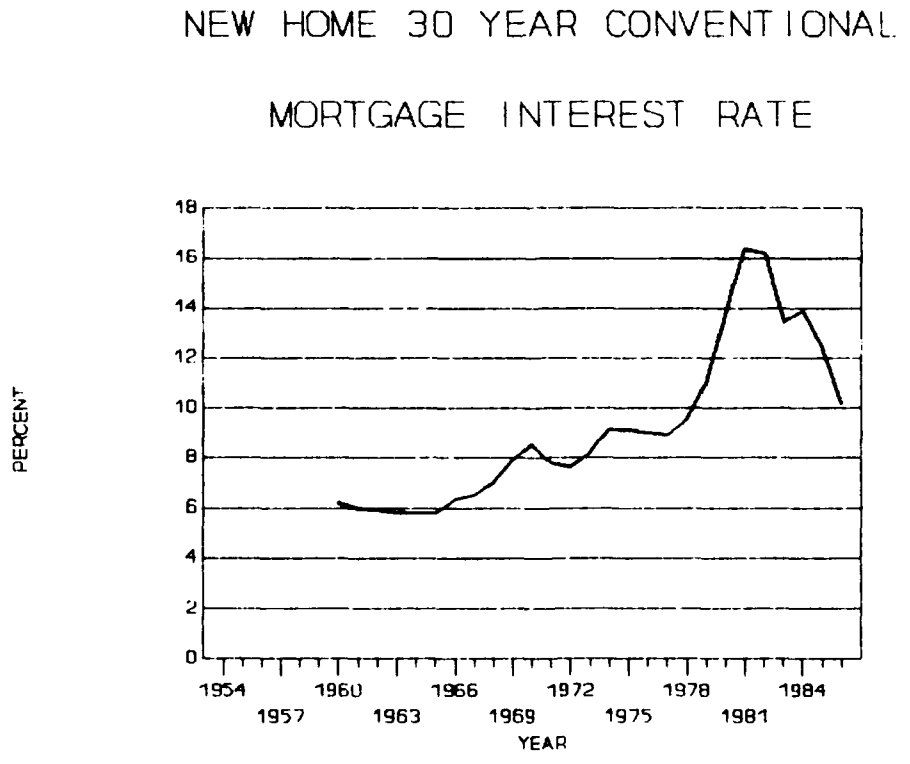


Figure 3.3
Source: Table C-6

least 1 year. When interest rates peaked, failures peaked about 1 year later.

--Figure 3.3, a graph of conventional mortgage interest rates for new homes, shows that it roughly follows the same trends as the prime rate although not nearly as pronounced.

--The value of "residential" construction put in place over the past 35 years reflects a drop in construction activity also about a year after a rise in interest rates. New home construction is often said to be the first industry to face difficulty in a weak economy. See Figure 3.4

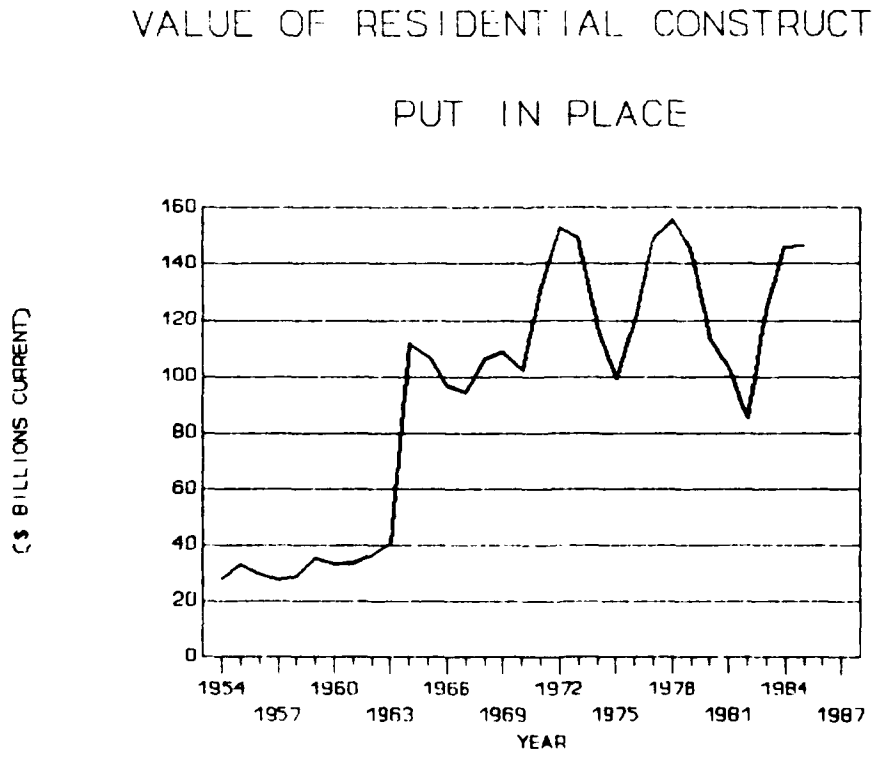


Figure 3.4
Source: Table C-9

--Consumer Price Index data provided in Appendix C Table C-6 and Figure C-6.3 shows only and upward trend and reflects no correlation between itself and construction failures. This is not unexpected as it primarily reflects the continued devaluation of the dollar accompanying inflation.

--The construction industry percent of the domestic gross national product was also investigated to see if it might be utilized as a planning tool for construction managers. But it provided no new insight and tended simply to react to the prime rate. A table and graph of the construction industry domestic GNP

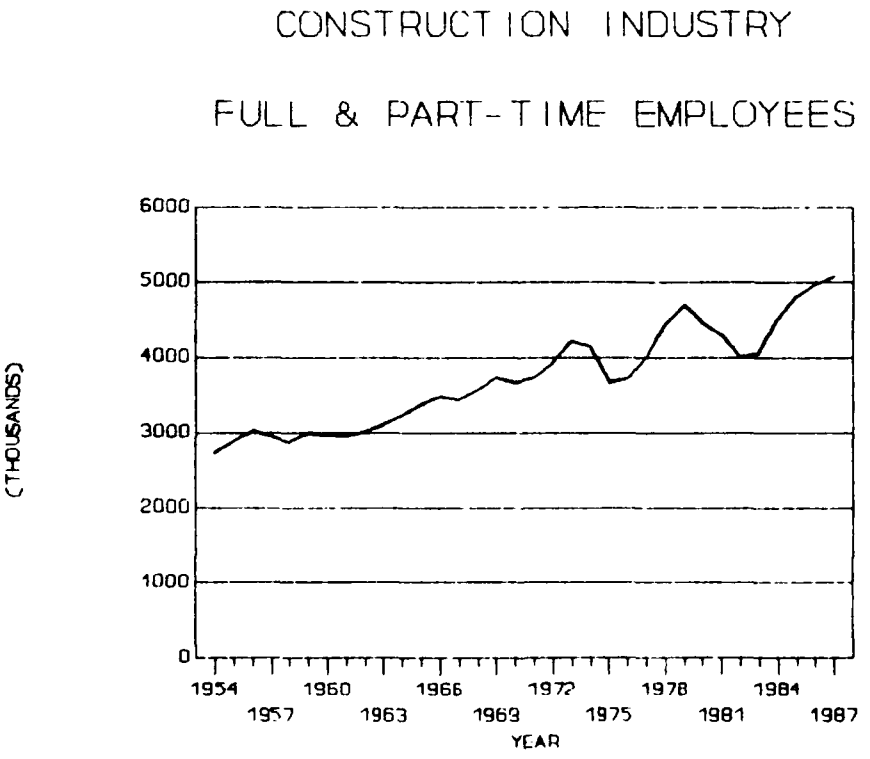


Figure 3.5
Source: Table C-8

is provided as Table C-1 and Figure C-1.

3.3 LABOR AND WAGES

--Results failed to support union claims that higher wages are justified by higher productivity. [SUB86]

--The number of full and part-time employees in the construction industry has continued to grow over the past 35 years but not without sharp cuts in employees in 1974 through 1976 and 1979 through 1982. These years of cutbacks correspond directly with sharp rises in the prime rate. See Figure 3.5.

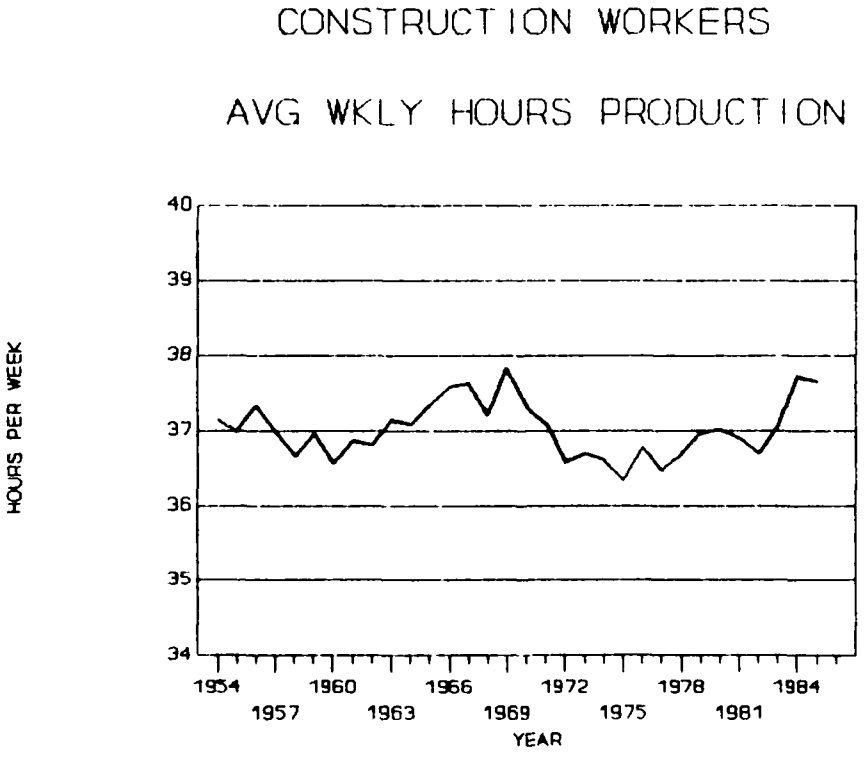


Figure 3.6
Source: Table C-8

-- The average weekly hours of production for construction workers ranges between 36 and 38 hours per week as shown in Figure 3.6. No correlation seems to exist between production and firm failures.

--A study by the University of Georgia in 1979 found that union contributions were a significant factor in voting patterns of congressmen. Unions generally favor government intervention in the economy. Union membership in a congressman's home state was less influential than campaign contributions. Unions do a better job of allocating campaign contributions than does small business.

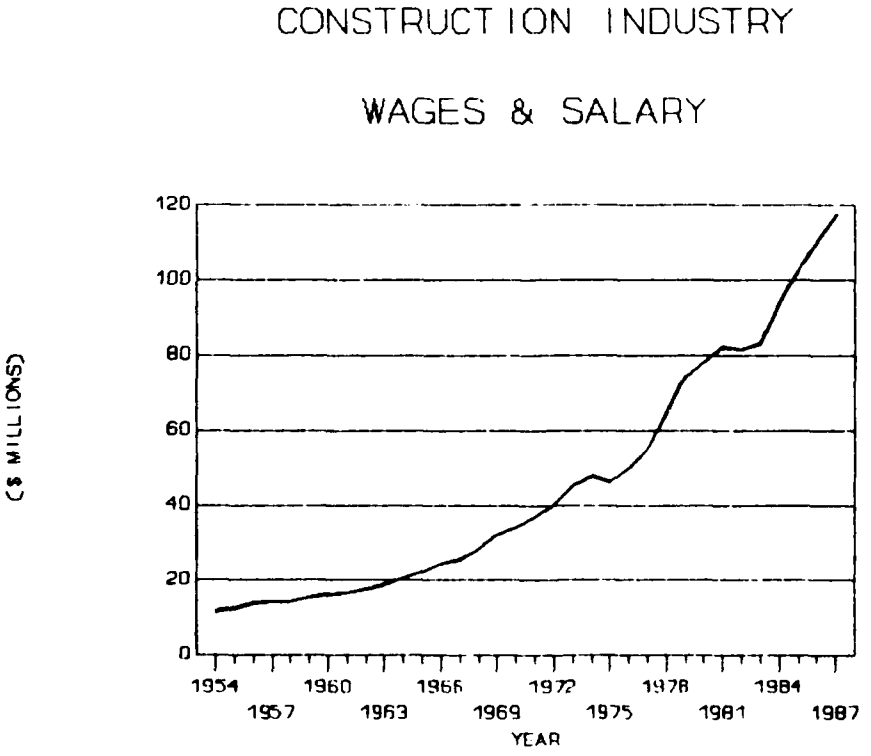


Figure 3.7
Source: Table C-8

A general conclusion was that laws favored by unions would generally hinder small business. [SBA 81 p.90]

--Wages and salary in the construction industry have continued to escalate over the past 30 years. They rose at about 5 percent/year for the past 15 years. See Figure 3.7

-- Annual income of construction firms has climbed at a rate of about 7.5 percent in order to combat the loss of profits eaten up by increasing wages. Figure 3.8.

--Workman's compensation in Georgia for roofing contractors

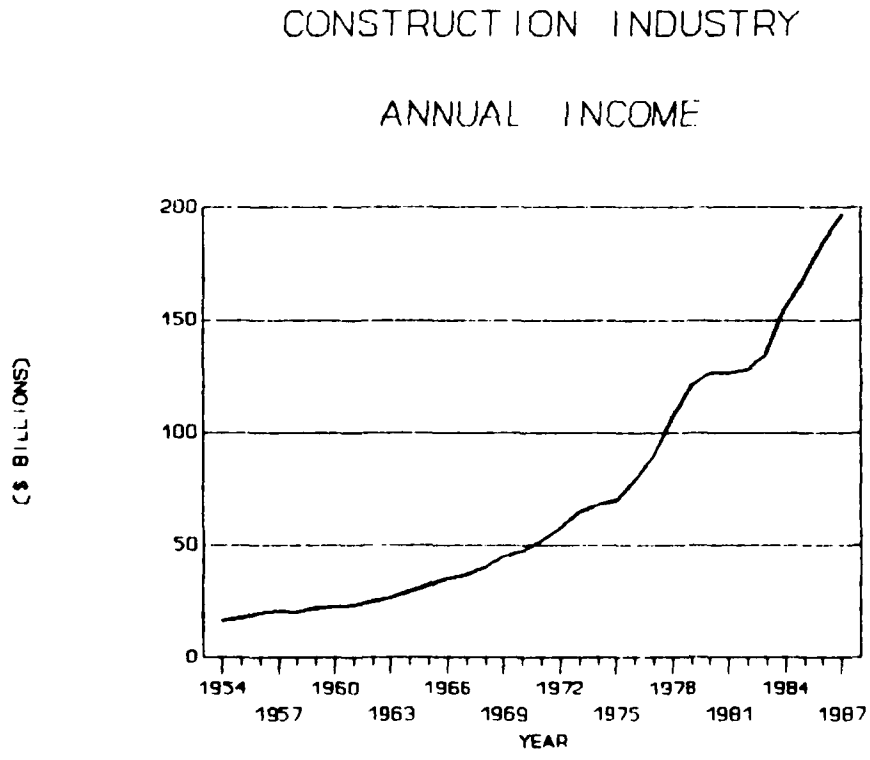


Figure 3.8
Source: Table C-7

costs between $13 and $30 dollars per $100 dollars of payroll according to Mr. Randell Tanner of Huffines, Tanner, and Russell Incorporated a Georgia commercial insurance firm.

--As if to negate contractor income increases, total employee compensation has also climbed at a rate of around 7.5 percent over the last 15 years. The graph of compensation exhibits almost the exact same trends as wages and salary. Figure 3.9.

--Labor turnover greatly affects the cost of doing business and how businesses are operated. Studies have consistently shown lower tenure and retention rates for small firms. A study sponsored

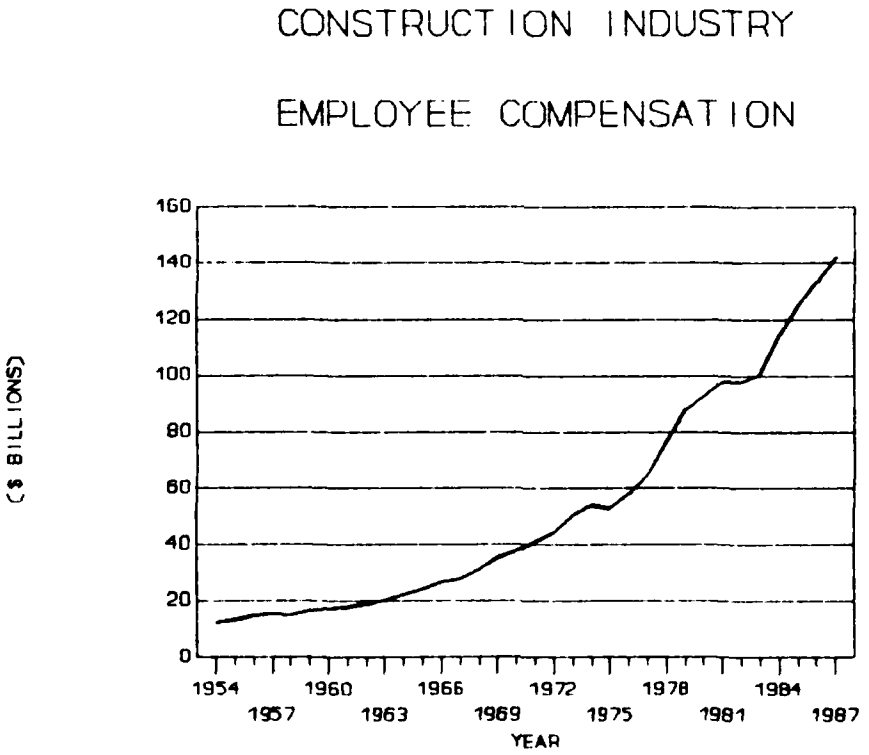


Figure 3.9
Source: Table C-8

by the SBA found that small firms have higher labor turnover in part because of the characteristics of the workers they hire and the opportunities for flexible hours they are able to provide. Small firms hire workers reentering the work force at a much higher rate than large business. They are more likely to hire teenagers or low skilled entry level workers, women, and older workers. All these groups are characterized by above average turnover and a weak attachment to the labor market. Also professional specialists in small firms have a higher turnover rate than in large businesses. Construction, personal service, and business repair service workers have above average turnover rates. [SBA89]

3.4 FAILURE TRENDS

--Construction firm failures of general contractors followed the same trend as specialty and sub-contractors prior to 1979. Since 1979 general contractors appear to have failed less often than subs and specialty contractors. See Figure 3.10.

--Table 3.1 shows construction firm failure rates per 10,000 firms for several years. Overall the failure rate seems to be going down or possibly stabilizing. According to [Platt85] now that most of the industrialization of American is over business failure rates are stabilizing.

--Unlike Figure 3.10, Table 3.1 shows that specialty contractors have lower failure rates than general contractors. Therefore, the reason for the increased number of sub and specialty contractor failures shown in Figure 3.10 following 1979 is simply

that the number of sub and specialty contractors increased substantially.

Table 3.1

Construction Firm Failure Rates

Year	Number Failures per 10,000 Firms							
	1950	1960	1970	1984	1985	1986	1987	1988
CG & Operative Builder				106	115	108	93	97
Contr other than Bldgs.				136	115	114	97	93
Specialty Contractors				113	104	107	90	92
Overall Rate	103	199	116	112	109	108	92	94

Source: Rates of years 1950, 60, and 70 are actually 10 year averages from [Platt85]. 1984 through 1988 are from the new format of Dun & Bradstreet's Failure Report.

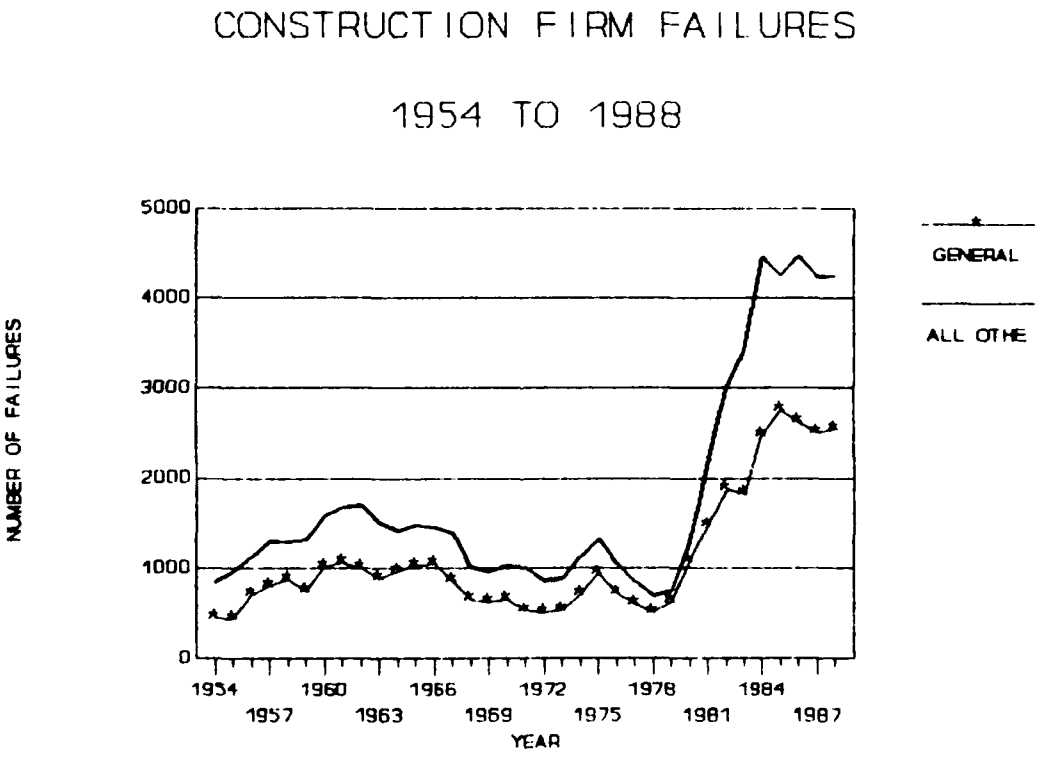


Figure 3.10
Source: Table C-4

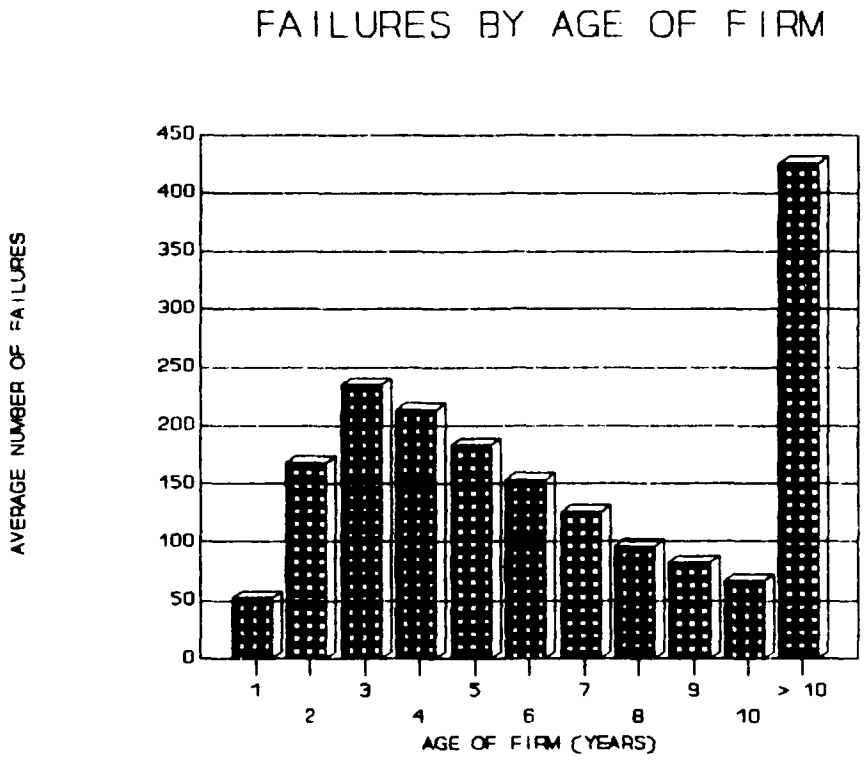


Figure 3.11
Source: Table C-10

--In 1986 30% of all construction company failures occurred when the companies were between 6 and 10 years old. The construction industry had the highest failure rate in that age group of all other industries. [ASS&NASPB88, pp.3]

--Construction firms fail most frequently when 2 to 6 years old. See Figure 3.11.

--Working with established contractors didn't necessarily afford more protection against loss than working with less established contractors. Failures by established firms are on the

rise. [ASS&NASBP88 pp.6,11] and [interviews]

--Per [ASS&NASBP88 pp.9] the 4 most frequently mentioned factors in determining whether to recommend or require a surety bond of a contractor on a private project are, in order of importance:

1. Project scope and nature vs. contractor's past experience.
2. Dollar amount of contract.
3. Contractor's financial statement and credit history.
4. Contractor's years in business.

--In 1967 and 1968 construction contractors had the largest reduction in failures of any industry, 26 percent. [Dun & Brad68]

--From 1965 to 1968 despite an economic upturn (not including failures due to managerial deficiencies) the largest cause for construction failures was the overwhelming of firms by heavy operating expenses as a result of spiraling prices and wages. [Dun & Brad68]

--In 1969 the construction industry was depressed and 30 percent of the construction firm failures were attributed to the slump in home building. [Dun & Brad69]

--Far more older firms are failing compared with the early 1950's. [Dun & Brad72]

--In 1974 during an economic slump, the number of casualties due to heavy operating expenses nearly doubled. Slow or uncollectible receivables also accounted for a substantial amount of failures. [Dun & Brad74]

--In 1975 the hardest hit industry was construction, where

one-third more contractors failed than in the previous year. [Dun & Brad75]

--In 1975 sales problems and heavy operating costs were dominate causes for failure besides managerial problems. [Dun & Brad75]

--Slow or uncollectible receivables played a growing role in 1975's bankruptcies. The larger the firm the greater the problem. Downed most often by receivables difficulties were wholesalers of electrical supplies, printers, building subcontractors and advertising agencies. [Dun & Brad75]

--The construction industry in 1976 showed the greatest improvement as the number of contractors failing declined 22 percent [Dun & Brad76]. This substantial improvement followed 2 years of reductions in the prime rate.

--In 1978 a large number of construction failures were attributed to spiralling inflation and receivables difficulties [Dun & Brad78]. The prime rate had jumped 3 to 4 percentage points.

--24 percent more general builders failed in 1979 than in the previous year because of double digit inflation, receivables difficulties, and credit tightening. [Dun & Brad79]

--In 1981 22 percent of construction firms failed due to heavy operating expenses [Platt85].

--The Dun & Bradstreet Failure Report format was changed in 1984 to it's new format displayed in Appendix D.

--Business failure rates are related to a firms's ability to generate new jobs which in turn demonstrates the importance of

growth to a firm's survival. Approximately 30 percent of non-growing firms fail within 2 years of their startup date compared with 8 percent of firms which added at least one employee during the 2 year interval. [SBA89]

--Table 3.2 is the SBA's list of possible construction firm

Table 3.2
SBA DEFAULT CODES

Code	
1.	Underbidding
2.	Weather/natural disasters
3.	Shortage in critical materials/delays in receiving same
4.	Alleged embezzlement
5.	Financial mismanagement
6.	Incompetence/poor workmanship
7.	Union strike/labor trouble
8.	Illness or death of key employee
9.	Walked off the job
10.	Dispute with obligee
11.	Possible fraudulent operation on part of principal
12.	Despondency
13.	Co-mingling of funds
14.	General's subcontractor in default
15.	Sub's general in default
16.	Possible sub-busting on part of general
17.	IRS lien
18.	Sub's general behind schedule
19.	Unforseen physical obstacle
20.	Shortage of labor
21.	Principal fails to appear at job site to begin work
22.	Fire damage
23.	Materialman lien
24.	labor lien

default codes and corresponding reasons for default. These codes are used by the SBA's surety bond claims office.

3.5 Construction Surety

Nearly 7,000 contractors failed in 1987 leaving a trail of unfinished private and public construction projects with losses exceeding $2 billion dollars, according to Dun & Bradstreet. Surety bonds are risk transfer mechanisms written by insurance companies. They are not the standard 2-party insurance policy but instead a 3-party insurance policy generally involving the contractor, the surety company, and the project owner. Surety bond companies are the insurance companies of construction, although some of the references given in the back of this paper dislike that statement. Surety bonds are only utilized for approximately 35 percent of all construction[1]. Surety companies perform a necessary function throughout the chain of construction players. The owner insures himself against default by the general contractor, the general contractor insures himself against the subs and the subs sometimes even insure themselves against default of a sub-sub.

The Heard Act passed by congress in 1893 supplanted in 1935 by the Miller Act requires that contractors obtain surety bonds for all federally funded projects. Since then virtually all states have followed with their own similar legislation. Private construction bonds about 10 to 25 percent of their projects.[2] Next to contractors themselves, bonding companies as an industry know and

---

[1] The value of 35 percent was gained through the interviews with surety managers given in Appendix A.

[2] Losses in Private Sector Construction Due to Contractor Failure, SAA and NASBP, 1988, pp. 10.

understand the economic problems of construction firms better than any other group of people. They must in order to profit at their business.

Surety underwriting focuses on prequalifying the contractors before committing assets to guarantee a contractor's performance. Before a surety underwriter issues a bond he must be fully satisfied that the contractor runs a well-managed profitable enterprise, pays debts, keeps promises, deals fairly with others and performs obligations in a timely manner. They also look at whether a contractors experience matches the requirements of the job for which bonding is requested. The price for a bond normally ranges from one to five percent of the contract. One of the major benefits of being bonded on a job is that the bonding company wants the contractor to succeed as much as the contractor himself. And in the face of possible default the bonding company will generally provide all the assistance it can to keep the contractor in business including provide working capital and other financial assistance.

Sureties spend a great deal of time and money to train and develop their underwriters. In a survey of 12 leading surety companies it was determined that, in a five year period through 1969, only 79 of more than 1100 people hired as surety underwriters were still on the payrolls[3]. The total cost of training all these people was more than $41 million dollars but the sureties retained

---

[3] Frein, p.85.

less than one tenth of the trainees. In the first two years the average cost of training each person exceeded $30,000. Although the underwriter may not always be right, an experienced underwriter represents a substantial corporate investment. It only makes good sense for a contractor to take full advantage of the underwriter's knowledge and experience through consultation and casual conversation.

CHAPTER 4

FIRM FAILURES

4.1 External Causes of Construction Firm Failures

Annually in their "Failure Report", Dun and Bradstreet states that 90 percent of all business failures are management related. Their statistics show that about 92 percent of the construction firm failures in the US are due to poor management. Most bibliography listed in the back of this paper state management controlled reasons such as inadequate cash flow, no growth and inadequate planning as the primary reasons for contractor default. Surety statistics indicate that "overexpansion" or taking on more work than a contractor can handle is probably the major cause for failure in the building field[1]. These are all management controlled problems. There is also a long list of problems that are not controllable by a firm's management that could lead to default or bankruptcy. An economic downturn, labor difficulties, material shortages, the death of a key person, bad weather, and even fraudulent activity can cause a project or contractor to go into default. The list of the SBA's Default Codes given earlier in Table 3.2 suggest some very interesting reasons for construction firm failures such as "the sub's general in default" or "the general's sub in default". In these two cases a firm defaulted because of the failure of another. While it may be true that the second firm

---

[1] Joseph P. Frein, **Handbook of Construction Management and Organization**, 2nd Ed. NY: Van Nostrand Reinhold Co, 1980, pp. 85.

had little control over the first firm's failure it is management's responsibility to select contractors with which to work that will not only net the company a profit but last the duration of the project. Before entering into a contract each party should know that the other party is able to uphold their end of the bargain. The other party's financial condition should be reviewed and if they refuse to give out such information it may be wise to end the business relationship. This is all a responsibility of management. Therefore, many of the SBA's causes for failure that appear to be non-management related are actually management related. Also the SBA's list of causes may be better described as symptoms of larger underlying problems such as inflation and mismanagement than as sources of failure. However, the fact that the SBA has dealt with enough of the types of failures listed to give them a code for conveyance sake, makes them significant.

Dun and Bradstreet until 1984 reported business failures by breaking them down into 5 major divisions as shown in Table 4.1. Four are non-management causes, 1) Fraud 2) Disaster 3) Unknown and 4) Neglect. Neglect is used by Dun and Bradstreet to account for failures because of marital difficulties, poor health, and bad habits (alcohol is assumed). Dun & Bradstreet included in the fifth division four subdivisions a) Lack of Line Experience b) Lack of Managerial Experience c) Unbalanced Experience and d) Incompetence. The fifth division untitled by Dun and Bradstreet is entitled Management Causes by the author. The fifth division is clearly comprised ot managerial causes. In 1984 Dun and Bradstreet revised

the format of their annual Business Failure Report to utilize a more detailed breakdown of causes. Unknown is no longer a division. The new format has 10 divisions each with several subdivisions. Excerpts from an old and new Dun & Bradstreet report are provided in Appendix D for the readers study.

Table 4.1

UNDERLYING CAUSES OF CONSTRUCTION FIRM FAILURES

YEAR	MANAGEMENT CAUSES	NEGLECT	FRAUD	DISASTER	REASONS UNKNOWN	TOTAL
1960	90.5	3.2	1.2	0.4	4.7	100.0
1961	90.3	3.2	1.2	0.3	5.0	100.0
1962						
1963						
1964						
1965	91.9	3.8	1.7	0.5	2.1	100.0
1966	94.2	3.0	1.3	0.4	1.1	100.0
1967						
1968	90.8	2.9	0.7	0.7	4.9	100.0
1969	88.7	3.2	0.9	0.3	6.9	100.0
1970						
1971						
1972	94.2	2.5	1.1	0.0	2.2	100.0
1973						
1974	92.6	2.4	0.7	0.5	3.8	100.0
1975	91.9	1.0	0.3	1.1	5.7	100.0
1976	92.1	1.0	0.3	0.9	5.7	100.0
1977						
1978	92.1	0.9	0.3	0.4	6.3	100.0
1979	93.6	0.9	0.4	0.1	5.0	100.0
AVERAGE	91.9	2.3	0.8	0.5	4.5	
BELOW VALUES FROM NEW FORMAT OF D & B FAILURE RECORD:						
1984	74.2	4.0	0.5	0.7	20.6	100.0
1985	79.6	2.7	0.5	0.6	16.6	100.0
1986	81.7	1.8	0.4	0.5	15.6	100.0
1987	80.6	1.9	0.2	0.4	16.9	100.0
AVERAGE	79.0	2.6	0.5	0.4	17.5	

SOURCE: THE DUN & BRADSTREET CORP., "BUSINESS FAILURE RECORD", Through 1987.

In order to compare the new format with the old and finish Table 4.1 beyond 1983 the following steps were taken. Values for neglect, fraud, and disaster along with their subdivisions were left in tact as non-managerial causes. To determine a value to correspond with "unknown " used in the old format a portion of the new format's Economic Factors division (excluding the value for "Bad Profits" which was considered management related), was taken. Example Calculations are shown below. All values are taken from the Dun & Bradstreet excerpts in Appendix D.

Determining the percent of failures attributable to "Unknown" causes (as listed in the old format of the Dun & Bradstreet Failure Report from values in the new format).

From D&B Economic Factors Causes Division:

Omitted	
0.4	High Interest Rates
7.4	Loss of Market
9.7	No Consumer Spending
9.0	No Future
26.5	Total (is percent of D&B Economic Factors Causes that aren't attributed to management)

Since the Economic Factors Causes Division accounts for 72.8% of total failures and 26.5 is actually 26.5% of 72.8% the following calculation is made:

(26.5/100) X (Total of Economic Factors Causes, 72.8%) = 19.3%

But since D&B assigns some failures to more than one cause the sum of all construction failures for 1987 equals 114.2%. Thus 19.3% corrected for the possibility of double counting is;

$$\frac{19.3\%}{114.2\%} = \frac{X}{100\%} \qquad \text{where } X = \% \text{ Unknown failures}$$

$$X = 16.9\%$$

Therefore 16.9% of failures would be attributed to Unknown causes using the old D & B format.

Adding in neglect, disaster, and fraud gives a total of 19.4%.

16.9 Unknown
1.9 Neglect
0.4 Disaster
0.2 Fraud
19.4 Total Non-management related causes for 1987

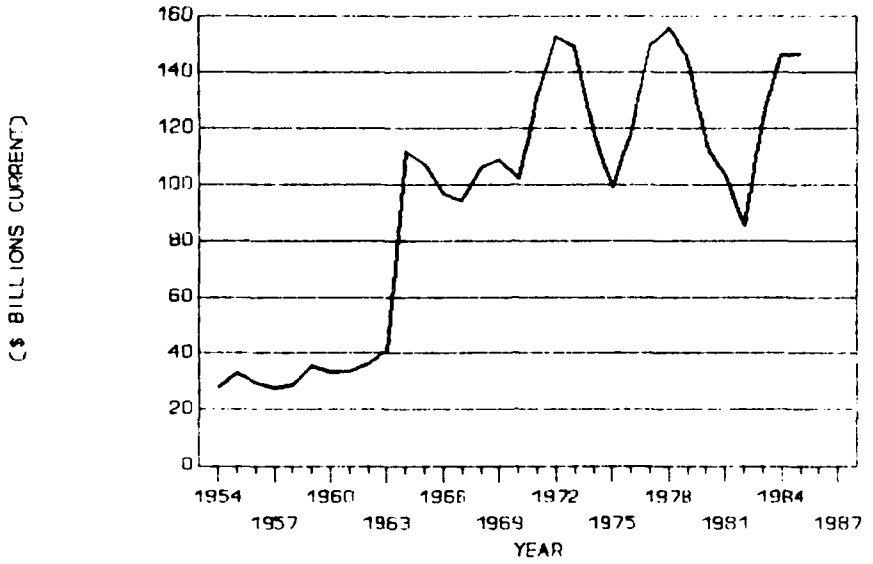
Neglect, Fraud, and Disaster were not factored down since it is unlikely that they would be double counted.

Table 4.1 shows the actual calculated averages for non-management and management causes for several years. Not all the data for this table was locally available, however sufficient data was available for the purposes of this report. It can be seen from Table 4.1 that management causes accounted for an average of 91.9 percent of the total causes prior to 1980. Data beyond 1983, making the adjustments stated above to allow direct comparison between the old and new format, shows that the average is more accurately about 80 percent. This finding makes the value of 92 percent normally used to quantify management related causes for construction firm failures inaccurate. The earlier simplistic method of reporting causes is probably the reasons for this discrepancy. Table 4.1 was also evaluated for trends and except for the increase in "Unknown" because of the discrepancy discussed above, the values were relatively constant. This suggests that construction firm failures attributable to non-management related causes have always been around 20 percent.

4.2 Economic Indicators

The affect of the national economy on construction activity is well noted. In almost every article reviewed for this research

that discussed the health of the construction industry, interest rates were always mentioned as being of primary concern. New housing starts increase substantially following lowering of interest rates. The health of the housing industry is often used as an economic indicator since it is one of the first industries affected by changes in the economy. The Federal Reserve's prime lending rate is considered a short term loan rate. Construction loans are usually short term variable rate loans. Figure 4.1 which compares a graph of residential construction activity with the prime lending rate, shows that each time the prime rate rose construction activity immediately dropped off. The most extreme case occurred around 1981 where interest rates rose to an annual average of about 18 percent and residential construction in place immediately dropped from about $155 billion to $90 million. The interest rates of Figure 4.1 are annual averages and thus reflect more gradual transitions between rates than actually occurred. The prime rate actually went above 20 percent in 1981. A graph of interest rates for 30 year new home conventional mortgages and one for all new home loans reflected profiles similar to that of the prime rate but were not as prominent. It could be argued that these conventional mortgage interest rates should be the rates used to compare to the changes in residential construction activity and not the prime rate. However, it's the author's opinion that it is more the general rising of interest rates and not the exact rates available that stall construction activity. And it is a desire of this study to look for readily available and easily understood



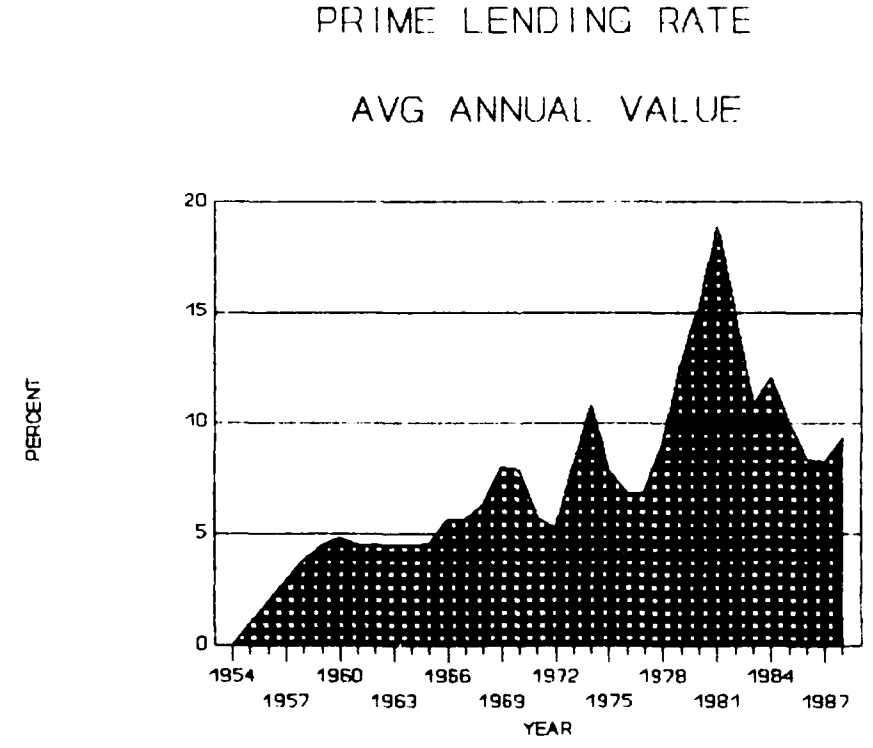


Figure 4.1 Residential Const. Activity Compared To Prime Rate
Source: Tables C-6 and C-9

economic indicators/tools. The added prominence of the prime lending rate graph is easier read and the prime rate is widely publicized making it readily available. Also because most other interest rates react to changes in the Prime Rate, the prime rate provides the earliest indications of economic problems. Therefore it is a better early warning sign than other interest rates. The graphs of "All New Home Conventional Mortgages" and "30 Year New Home Conventional Mortgages" are provided in Appendix C as Figures C-6.1 and C-6.2 for the readers review. Further review of Figure 4.1 especially around the year 1966 shows that slight or gradual increases in interest rates affect residential construction less severely. Also because of the continual trend of increasing interest rates, prior to 1981 there does not appear to be a particular interest rate over which construction activity always stops or slows as long as interest rates did not rise sharply. This would suggest interest rates are a relative value based on how long the consumer has had to accept it as a base rate. When interest rates rise sharply people naturally are hesitant to buy in hopeful anticipation of a decrease in interest rates in the near future. If interest rates stay at a high figure for some length of time (say at least 18 months from examining Figure 4.1) then the consumer becomes accustomed to it and is much more likely to purchase a home. This same phenomenon affects all other construction in much the same way. The only exception is apparently governmental spending which isn't as affected by the higher

interest rates since borrowing is not involved.[2] Generally speaking however, government spending is reduced during recessionary periods because of a desire not to increase the national debt.

When interest rates fall and construction activity increases, marginal contractors enter the field. These new contractors may do well at first and become overconfident. As higher interest rates return to the market they reduce activity overall but more so for the new less well-known firms. These firms fail when the high interest rates persist[3]. It is generally said high interest rates affect small construction firms first and more severely than larger construction firms. This is because the larger firms have a much larger financial base to draw from. Thus the small guy is much more susceptible to changes in the economy. As was noted earlier high interest rates in 1981 considerably reduced the amount of housing construction which is performed almost exclusively by small contractors. One advantage the small contractor has is that he is generally able to recover from financial trouble with little additional work, where as larger firms may take considerably longer to recover. Figure 4.2 compares the prime lending rates to construction firm failures. Construction firm failures tend to follow the prime rate. As mentioned in Chapter 3 there appears to be a time lag of about 1 to 2 years before a marked increase of contractor failures is noticed once an increase in the prime rate

---

[2]. See interview of Mr. Adams Appendix C.

[3] Harlan D. Platt, **Why Companies Fail**, Lexington Books, Lexington, Massachusetts, 1985, pp.125.

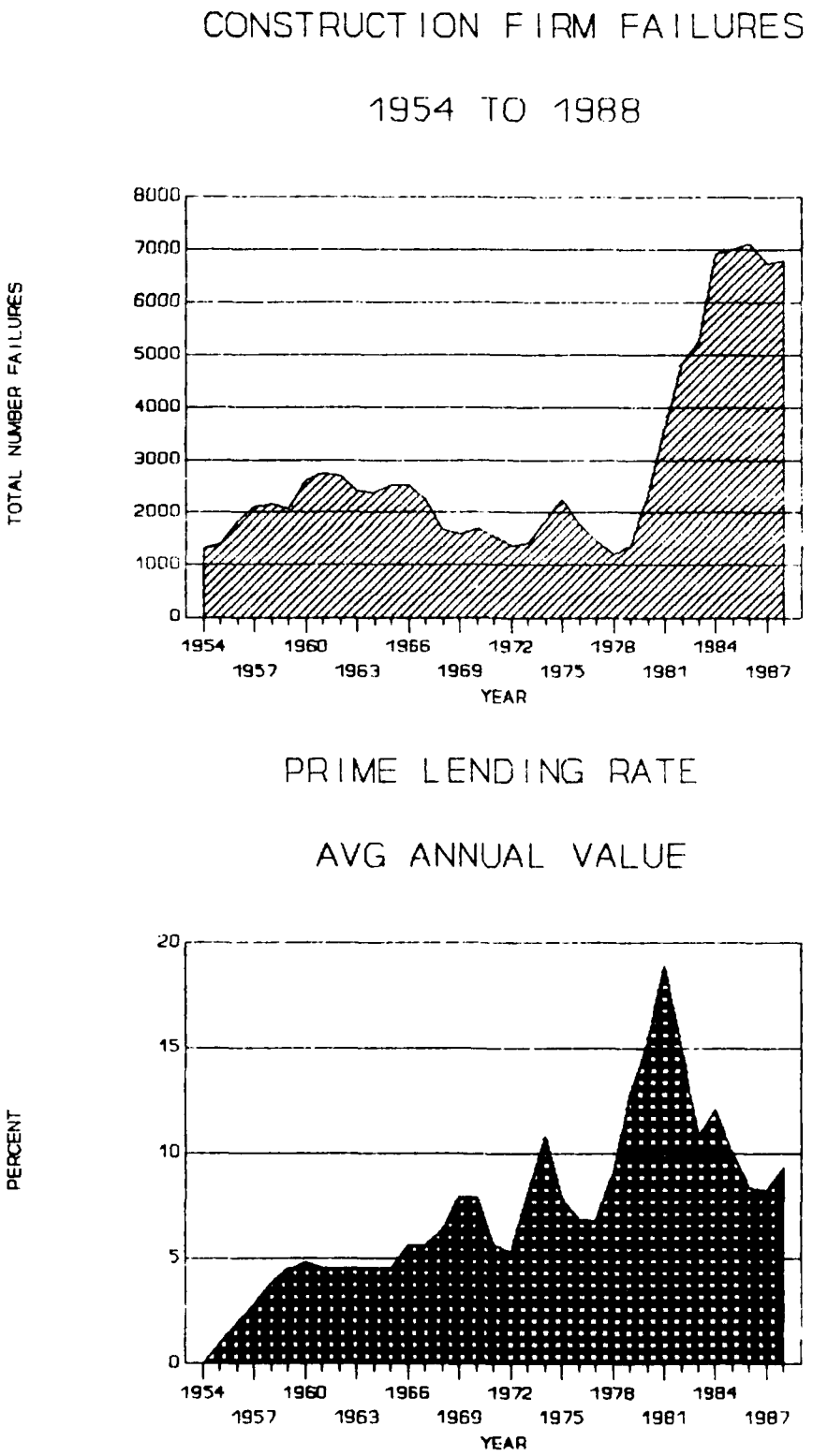


Figure 4.2 Prime Rate vs Contractor Failures
Source: Tables C-4 and C-6

occurs. An increase in interest rates is more serious to the construction industry than most other business since construction loans are usually only available at a variable interest rate[4]. Thus a sharp jump in interest rates could rob a contractor of all his profits if he were in a tough market bidding small profit margins. Thus large contractors with generally small profit margins (avg profit = 0.5%) are very susceptible to sharp increases in interest rates. Also large contractors with new projects or jobs with substantial time remaining before completion may loose considerable money due to gradual but substantial rises in interest rates. However, large contractors generally still have a substantial financial base to fall back on. If not they will be more susceptible to interest rates than small firms. An explanation for the time lag in contractor failures of at least 1 year following a jump in the prime rate is that it is not the lost profits felt by contractors due to high interest rates but the lack of projects to bid on offered by owners. Contractors survive about one year on their present job inventory but once those jobs are complete there are no jobs to replace them. Thus construction failures can be a result of tight money policies by owners. Owners possibly feel they can get a better return on their money elsewhere.

Bonding companies don't generally use economic indicators such as the prime rate to govern their decisions to bond or not to bond. They use economic indicators to estimate the amount of bonding

[4] See interview with Walter Hanke in Appendix A.

business they should expect[2]. This again would suggest that in poor economic times construction activity is shut off from the owners position and contractors can normally survive if they have work. [Barnette 1989] stated "no work" as the favorite reason contractors give for failing.

A national rise in oil prices would tend to have similar effects upon construction firms as do interest rates since as oil prices go up so does almost everything else. Oil prices differ from interest rates in that a sharp increase would affect heavy construction contractors the most. This is because of the large amounts of fuel and oil required to keep their equipment running. Thus heavy construction contractors should keep close tabs on oil prices as well as interest rates.

An indicator that may help contractors in predicting wage increases is the unemployment rate. According to the [SBA 89] if unemployment rates get below 4 percent there is a general trend for wages to increase. Therefore, unemployment rates can be important in a contractor's business plan or even in the estimating of a project. Contractors should watch the unemployment rate for their local area as well as the national unemployment rate since they may vary considerably. An indicator to watch for office builders is the office vacancy rate. At the end of 1988 the national office vacancy rate was 21.4 percent indicating the country has over built in that area.[5] Contractors specializing in office building are in

---

[5] "Outlook 89", **ENR**, 19 Jan 1989, pp 54.

for lean times unless diversified enough to take up the slack in other fields such as hospital construction. Hospital construction is apparently a growing field because of the aging of America. Demographic figures are worth watching as well. The housing industry will be hard hit in the near future as the number of Americans aged 25 to 34, the group most likely to be first time home buyers, will fall from 43.3 million in 1987 to 36.3 million in the year 2000.[6]

4.3 Government Spending

The Federal Reserve Board's tight money policies hit harder at small firms than at large ones. This is because the debt/equity ratio for small firms tends to be greater than for large firms, particularly in manufacturing, construction, and distributive trades[7]. In economic downturns the government as an owner also reduces its construction spending which in turn contributes to contractor failures. A very interesting study[8] done in 1981 suggests that the government should investment into public works construction at the onset of recessionary periods to act as a counter-cyclical measure for stabilizing the economy. Public works investments account for a substantial part of construction

---

[6] "What's Pulling The Rug Out From Under Housing", **Business Week**, 23 Jan 1989, pp 104.

[7] **SBA office of the Advocacy, Economic Research On Small Business: The Environment For Entrepreneurship And Small Business, Washington DC: Government Printing Office, 1981, p.iv.**

[8] Choate and Walter, **America In Ruins**, 1983.

activity. Of the $223 billion in new construction put in place in 1980, over $56.7 billion was for public works. This is more than 25 percent of the total US construction investment. Public works construction expenditures not only directly affect construction firms but also the service companies that construction firms need in order to operate such as equipment and material suppliers. The study discusses the poor condition of the nations present infrastructure and the substantial shortfall in annual investments toward its modernization and expansion required to meet the increasing needs of the country. It states that public works investment has long been made in a pro-cyclical manner, increasing during the expansion phase of an economical cycle and decreasing during the contractionary phase, thus worsening the recession. Since 1960 Congress has enacted three public works counter-cyclical programs the $1.9 billion dollar Accelerated Public Works Program in 1961-1962, the $130 billion dollar Public Works Impact Program in 1972-1973, and the $6 billion dollar Local Public Works Impact Program in 1976-1977. All of these programs fell short of their goal because it took so much time to pass legislation to start and then implement them. Eighty percent of the direct employment created by the Local Public Works Impact Program did not occur until the recovery phase of the period. Also the programs were to narrow in scope. Using the stabilizing effects of public works investment at the beginning of a recession could lessen the increased chance of construction firm failures. This would take considerable planning and coordination by federal, state, and local

governments. It would represent very beneficial legislation for the construction industry and should be pursued by both large and small construction associations.

Small business has a disadvantaged position compared with large firms in the regulatory process and thus lacks key influence. For example 90 federal agencies with regulatory powers issue around 7,000 new rules each year[9]. These rules appear in the Federal Register which is generally not read by the small business community. Thus small business generally misses the chance to respond within the required time. Changing tax laws are always a concern of contractors especially when involving equipment depreciation. Local legislation can also be a problem. A good example of detrimental regional legislation is occurring in Oregon. Legislation is being voted on that would prevent contractors from bidding on state jobs valued less than $250,000 dollars. Not surprisingly, the bill is being sponsored by the American Federation of State, County, and Municipal Employees.

4.4 The Cost of Doing Business

In the middle 1960's construction costs in general began to accelerate. From a predictable 5 percent a year costs rose to 7 then 9 and then 10 percent per year. Costs more than doubled during the 1970's and are still rising. Labor has out distanced costs, and demands for 15, 20, and 25 percent wage increases per year were

[9] SBA 81, **Economic Research On Small Business: The Environment For Entrepreneurship And Small Business**, 1981, p. 51.

not uncommon[10]. Housing costs increased to the point of driving prospective buyers to "packaged houses" and "mobile homes". Yet, contractors by adopting assembly-line methods succeeded in turning out houses which in price represented less than half the increases in unit labor costs where hand labor is used[10]. The cost of performing the everyday functions of a construction firm and purchasing the needed materials for projects are things not completely controllable by management. The costs associated with employee benefits are rising at exorbitant rates. The steep rise in employee compensation throughout the construction industry is reflected in Figure 4.3. This graph shows the sharp increases in employee compensation that contractors have had to deal with over the years. Many contractors have found themselves seriously in the red due to surprisingly high benefit costs. Of 21 states that granted wage hikes from October 1988 to March 1989 eight were in the double digit range. The highest was in Florida at 28.8 percent. As noted in Chapter 3, Dun & Bradstreet attributed many construction failures to heavy operating expenses as a result

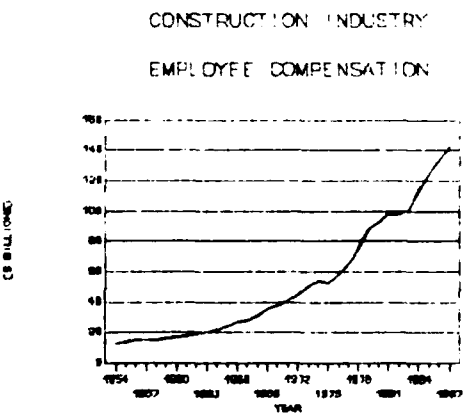


Figure 4.3
Source: Table C-8

[10] Frein, p.34.

of spiraling prices and wages. A possible explanation for these failures is that in general the construction industry does not adequately incorporate inflation into their bids. This is understandable since contractors are trying to under bid their competitors and a contractor with a large estimate of inflation although more adequate may lose the bid.

The additional paperwork required when performing contract work for the federal, state, or local government is estimated to add a cost of about $1,270 dollars to an average small business.[11] The volume of paperwork required for SBA loans makes them essentially inaccessible to many firms. Government regulations in general are more costly to small business. It costs a small business of less than 50 employees seven to tens times as much to comply with government regulations than it costs a larger business with 50 to 250 employees[12]. A single IRS form was reported by Employer's Quarterly Tax Report as costing each small business an average of $488.00 to prepare.

Legal costs and the number of construction related cases are rising rapidly. The membership of the American Bar Association's Forum Committee on the Construction Industry has doubled in size in the last 4 years to 4000 attorneys[13]. Similarly the number of

---

[11] SBA, **Government Paperwork and Small Business**, 1979.

[12] SBA, **The Environment For Entrepreneurship And Small Business**, 1981, p.iv.

[13] "Lawyers: Whose Side Are They Own?", **ENR**, 16 March 1989, pp.22-28.

construction cases handled by the American Arbitration Association has been rising by about 10 percent per year for a number of years. More than 90 percent of all construction disputes are settled before they go to court, but they still cost plenty in legal fees. Construction lawyers, once considered to be the dregs of legal specializations are now the envy of the legal profession because of their earning potential. Today with the volume of lawsuits in the field and the number of multimillion dollar awards, lawyers are getting into the field as fast as they can. Legal fees run between $75 to $200 dollars an hour.[:] Many small construction firms are hiring lawyers and making them part of their full time staff. Construction lawyers say firms can save themselves major money by investing in a half hours phone call to a construction lawyer at the onset of a problem. Also lawyers suggest that their use up-front negotiating better contracts can prevent legal heartaches later. One way suggested to win disputes is to keep good records and document everything. Numerous construction law seminars are being conducted regularly around the country on every aspect of construction law. These seminars are well attended and have even been criticized by some as fueling the flames of litigation in the construction industry because they teach people how to go about litigation. Small businesses are frequently at an economic disadvantage because they can't afford the legal and accounting help they need. Much of the small firm's management time must be spent keeping up with changes in tax laws and other government regulations. Large businesses generally have a staff assigned to

keeping the company current with new tax laws or other federal or state regulations.

4.5 Regional Affects

Construction companies located in a single commodity region have a much higher chance for failure than the average firm. This is because if the regions bread winning commodity falters the money in the region dries up. New construction is no longer needed and even public works maintenance is deferred due to lack of tax dollars. This was most evident in the oil producing states such as Texas, Oklahoma, and Louisiana that were hit so hard when the petroleum industry sustained substantial losses in the early 70's. A large number of contractors failed with the petroleum companies. In the near future water limitations and the accompanied higher costs for water may change the economic climate of Arizona, Nevada, and Southern California. That region may soon lose some of its major industry because of rising water prices. When industry leaves along with it goes tax base that funds government construction and home buyers required by the housing industry.

A worry of contractors branching out into regions of the country they are unfamiliar with is regional costs. For instance in the New England area the cost of solid waste collection and disposal is two and one-half times the national average[14]. The additional cost for disposal of trash, unusable waste, and other

[14] SBA 81, The Environment For Entrepreneurship and Small Business, 1981, p. 51

debris on a construction site may devour the entire expected profit of a contractor who did not consider this additional cost. A regional cost that should be considered when establishing a construction firm is the local tax burden. It may vary widely from state to state. The tax burden for a business may be significantly less a few miles away in a neighboring state. Thus the state and its tax laws can have a major impact upon business profits.

4.6 Technical Complexity, Warranty, High Profile

The increasing complexity of construction today was mentioned by all the surety industry people interviewed as an increasing cause for construction defaults. Contractors due to the nature of their business and the way contracts are written are generally responsible for building the A & E's design such that it works just like it is supposed to despite a few design flaws here and there. Since owners and A & E's write the contracts, they naturally desire to shift as much liability as possible to the contractor. If something doesn't work properly generally the contractor is blamed. The contractor in the bidding process is betting a lot of his profits on the abilities of the A & E. Considerable litigation has occurred rising from disputes over which party is responsible for a workable design. The contractor blames the A & E for poor design and the A & E blames the contractor for poor construction.

Extended warranties desired by owners are specified more often today and pose a new problem to the construction industry. Contractors may enter into contracts that specify long warranties

because they need the work and fell if they perform the work correctly the warranty will pose no problem. However, installation of specified materials using exact and proper methods may not be enough. Unless the contractor knows all the possible uses of the facility, the various loadings, weathering, and environmental extremes that the materials will be subject to, he is gambling with his financial future when agreeing to long term warranties.

High profile jobs face a different type of problem. The constructability of a project may not be of concern but delays caused by actions of special interest groups can complicate things considerably. Projects can become delayed for indefinite periods of time leaving the contractor asking himself what to do next. Should he pull his equipment and manpower off the job at considerable expense and work on another job, or will the conflict be solved quickly allowing him to go back to work. Which is the least costly to his company? Delay clauses seldom cover all the costs incurred by a contractor. The contractor needs to be working on jobs that provide him a profit and delay clauses never provide that.

4.7 Financial Institutions

The failure of several S & L's despite government actions to save them have recently caused defaults on construction projects[15]. Contractors have been left without any money right in the middle

[15] See interview with Jack Adams in Appendix A.

of projects. Other financial institutions not familiar with a contractor or his project don't want to all of a sudden buy into part of a project in order to keep the contractor solvent. Thus the contractors must turn to the bonding company to save them or they will default and the bonding company will have to take over the job. Because of the failure of several S & L's and some banks, surety companies are now looking into the financial condition of the bank or S & L financing the project before bonding the contractor[15].

The lack of risk capital and credit was continuously found as a problem that increases the probability of failure.

> "Construction firm failures which contributed most heavily to the upsurge in liabilities between 1965 and 1966 pinpointed most acutely the squeeze of tight money." [Dun & Brad66]

When credit is available to small firms often it is at a cost that prohibits a sufficient rate of return to make a project profitable. Credit for the small construction firm is generally at a higher interest rate than for larger firms. This difference in interest rates make the small firm less competitive with large business.

Beginning firms generally rely on informal sources of funds to get their businesses off the ground such as personal savings, loans from relatives or friends, and business associates. This is primarily because financial institutions require some sort of attractive business credit history before approving a loan and aren't generally willing to finance new businesses. This tight money policy by financiers, although sensible, is perhaps one of the major reasons for failure in young construction firms. A small

firm may have enough money to last one year and finally see a profit, only to find out that failure is eminent due to no borrowing power. Once a firm has been in operation for a few years and venture capital is needed for expansion such as for equipment, or additional personnel, banks and S & L's are generally more cooperative.

4.8 Contractor Specialties

All of the people interviewed in Appendix A stated that

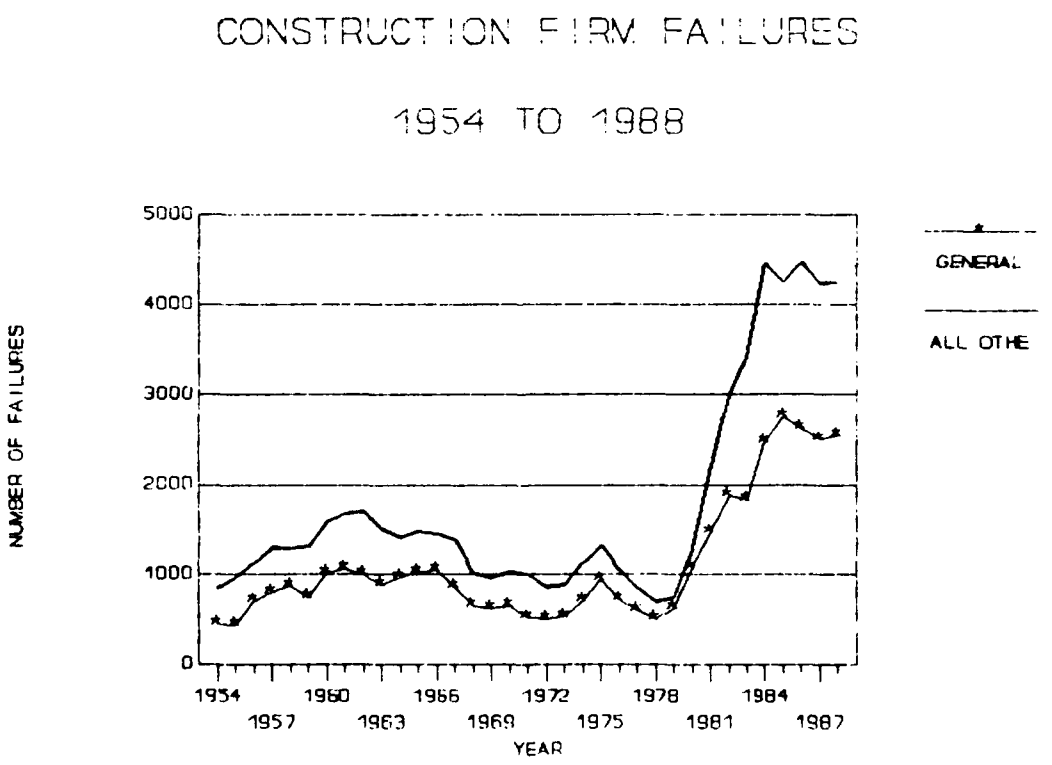


Figure 4.4
Source: Table C-4

general contractors are financially more stable than subcontractors because general contractors are closer to the source of money. And that general contractors have a lower failure rate. Sureties and banks make subcontractors meet much tougher financial requirements than general contractors. In fact most surety companies prefer not to bond subcontractors and generally refuse to bond sub-subcontractors. According to the Dun & Bradstreet failure rates given in Table 3.1 general contractors fail about the same or more than subs and specialty contractors. The misconception that general contractors fail less often than subs and specialty contractors may be a result of the large number of subs and specialty contractors that have failed since about 1981. Figure 4.4 can be misleading. The widening of the failure gap for general contractors and other contractors is simply a result of an increase in the number of specialty contractors and the corresponding proportionate number of failures. The increased number of specialty contractors may be a result of the increasing complexity in today's construction. Therefore the surety industry may think the failure rate of general contractors is less than for subs but they are not considering it proportionately for the number of subs and specialty contractors in existence.

Different contractor specialties tend to do better than others according to surety personnel interviewed. Contractors in less complex fields such as paving and concrete work were mentioned as generally being more stable. Contractors in more complex fields such as electrical and industrial piping seemed to fail more often

than the average. Two reasons were given for a perceived high failure rate for roofers. One was their warranting of roof jobs for very long times. Another was the high probability that the roofing contractor had learned the business from the bottom up but never received any formal business and accounting training. Therefore they do not have the financial or accounting tools to survive long.

4.9 Personnel

The high turnover rate inherent in the construction industry is a fact of life. Construction companies hire more part-time employees than most other industries. They hire the very young, very old, transient, and much unskilled labor[16]. The cost to train and develop these employees is tremendous. Low retention rates are costly through the added overhead they require. To properly process the required paper work associated with employees as they come and go, places additional burden on contractors. Worker turnover for small firms is especially costly because it directly diverts management's attention from productive activities. Liability costs are continually increasing. Personnel safety is becoming more and more of an issue at considerable cost to the contractor. Employees must be trained and certified to perform certain functions or the company chances fines by OSHA. Labor costs have increased 10 fold since 1940. Workman's Compensation and other liability costs have skyrocketed. This year construction industry unemployment reached

[16] "Construction Reaches Top Floor", **ENR**, 23 March 1989, pp 39.

a nine year low. According to the Construction Labor Research Council (CLRC), a Washington DC research organization, the construction industry will need 210,000 new workers annually through the mid 1990's. Replacement needs exceed growth needs by two-and-a-half to one[16]. Because of the economic law of supply and demand wages will surely increase substantially as contractors compete for workers.

4.10 Death of Owner

Death of the firm's owner is almost always followed by the firm's failure according to the surety personnel interviewed. This is despite continuation plans and other insurance protection that are available. Most surety companies and the SBA require continuation plans before they will bond a contractor. Death of a firm's owner is not a frequent problem but significant enough to worry surety agents. The Surety Group with its approximately 150 contractor clients generally experiences 1 owner death per year[17]. Death of other key individuals in a construction firm is a concern and is the reason for key man insurance. However, their death does not typically result in eventual company failure. These people can generally be replaced as long as the strong guidance of the owner is still there. Turnover of key individuals is not necessarily a problem either since when a company is doing well the employees will stick around to enjoy the prosperity. It is when the company

[17] Per Mr. Barnette of the Surety Group, see Appendix A.

is going down hill that employees start looking for other jobs.[18]

[18] Per interview with Mr. Adams. See Appendix A.

CHAPTER 5

RESULTS AND CONCLUSIONS

5.1 Results and Conclusions

From the information gathered in this research it is apparent that the forces up against today's contractors are substantial. Non-management related contractor failures not normally dealt with in other research, has proven to be very interesting and encompasses a broad range of topics. A contractor, knowing what external forces he must deal with in the vast and complex construction markets of today will have a distinct advantage over most other contractors. Obviously being a good manager is more important than watching the prime rate to predict lean times. However, watching the prime rate may provide substantial dividends in the long run. Through proper planning and better informed decisions, contractors can develop stronger and more resistant firms to market fluctuations.

Probably the three most significant findings by this study were: 1) that a much larger percent of construction firm failures, approximately 20 percent, occur due to non-management causes than originally thought; 2) that construction firm failures lag increases in the prime rate by about 1 year and 3) that subs and specialty contractors do not fail at a greater rate than general contractors. The first two findings should encourage contractors and their professional organizations to be more attentive to national economics.

The basic lessons from this research are as follows:

Dun and Bradstreet says business vulnerability varies by industry, size, age, geographically and year. From this study the most significant non-management causes for failure are felt to be;

1) Economic Downturns (Escalating Interest Rates)
2) Escalating Costs
3) Technical Complexity and Warranty
4) Regional Differences/Major Commodity Failures
5. Death of Owner

Contractors should keep their eye on economic trends. Perhaps a welcome addition to Mr. Frein's description of the ideal contractor quoted in Chapter 1 would be "economist". A contractor who adjusts his business plan to react to economic changes will probably survive longer and realize bigger profits. The prime rate and ENR's cost indexes are probably the most beneficial tools for planing. Contractor's must react to changing market conditions before the market hurts their companies, not when damage is done. As profit margins are reduced in economic slumps, contractors should be prepared to make tough decisions to reduce their overhead. One tough decision is laying people off. Start with the ones most likely to leave anyway, if possible. This may be the best procedure since you want to make sure the ones you keep will not leave and add to the high cost of turning over personnel. Inflation should always be considered in bids. However, inflation is seldom adequately considered in competitive bids because of the notion that other contractors may not be including as much inflation as you are. Only in negotiated contracts could inflation be properly

accounted for. A way inflation could be properly considered in a competitively bid job would be for owners to routinely specify an adequate value to be used in all bids. This is highly unlikely since there is no motivation for the owner to do this. He would essentially be increasing the cost of his project. It would strengthen the contractor making him less likely to default which would benefit the owner.

If at all possible contractors should not operate a construction business within a region dependent upon a single commodity for survival. If by chance that commodity becomes obsolete or no longer in demand money for any type of construction will be scarce. Without work no construction company can survive. If a contractor must locate within such a region he should not concentrate his work in that immediate area. Contract for jobs well outside the region if possible to insulate from regional economics.

Subs should try to receive their progress payments directly from the owner. Whether general contractors fail at a lower rate than subs or not is not that important. What is important is that general contractors are closer to the money than subs and this fact has to strengthen their position. "Construction Management" type of contracting, where the owner deals directly with the subcontractors would be the safest situation for sub-contractors. Contractors should be more aware of the unknowns inherent in there type of construction. Sewer and pipe contractors fail more often than others because of the great amount of uncertainty they deal with in soil conditions. They are also greatly affected by weather

and the dangers of working in trenches. A contractor with the diversity of doing renovation and remodeling would be more stable during economic downturns. As money dries up renovation of old buildings will be chosen over building new ones. Also the tremendous amount of construction in place is getting older and reaching the age of renovation in the normal building life cycle. Also government tends to renovate because maintenance funds are easier to get than new construction funds.

Negotiate for contracts when possible in attempt to keep profits within a comfortable range for dealing with the unknown. Bidding doesn't usually allow consideration of the unknown and thus economic downturns are more harmful.

The construction industry as a whole should lobby for counter-cyclical public works legislation that would invoke added investment by the government at the beginning of recessionary periods. This would help stabilize the national economy as well as make the construction industry a more stable industry. To plan and implement such legislation would be a momentous undertaking and a tremendous backlog of construction would be required.

To combat failure of a company due to death of the owner, clear and concise continuation plans must be developed. The people of the company must feel confident in the abilities of the relieving manager. The transition must be quick and show clear direction. To ensure the death of a key individual in the firm does not substantially affect a company, key man insurance should be purchased. Key individuals can take a lot of critical corporate

knowledge with them and the company stands to lose a lot while it is filling in the missing pieces. General management succession planning should also be used for such management contingencies as illness, injury, and retirement.

Construction firms need to be well informed and have easy access to industry information. Some of the more important information needs are financial ratios of other similar type firms, costs and sources of borrowing, general economic forecasts for the coming year and a summary interpretation of government regulations affecting construction firms. The most likely agency to do this would be the SBA.

Contracting is and always will be a demanding and rewarding but unforgiving profession. It demands experience, sometimes acquired at heartbreaking costs. It demands the full attention of an alert imaginative mind. Construction problems constantly change. The problems of the 1940's and 1950's were not the same as the 1970's or 1980's. Contractors must learn to develop and change with the times and most of all anticipate change and adjust to it as fast as it occurs, not after it has happened.

Fraud, neglect and disaster were not discussed in previous chapters but are important. Insurance to protect against natural disaster and fraud should always be purchased. Personal problems resulting in neglect by the owner should not be over looked. The owner must always be alert to the possible devastation of his/her actions.

5.2 A Failure Prevention Guide

The following is a series of statements and questions intended to act as a guide in the prevention of contractor failures due to problems external to management. The guide does not pretend to be totally comprehensive nor does it suggest that a firm following these guidelines will survive all pitfalls and be successful. Successful contractors are not created in a day or by the successful completion of one or two contracts. Many contractors have had to fight their way back to the top, sometimes more than once. The really successful ones are molded by years of experience. The fact that in 1986 thirty percent of the failed construction companies were between 6 and 10 years old suggests that construction firms may not be well established until well after 10 years in business.

Contractors should consider the following questions and statements:

1. Purchase substantial life insurance on owners and all key personnel. This is particularly important for individual operators, solely owned corporations, and partnerships.

2. Do you have people you don't know very well in key financial positions? Keep your organization compact and intact. Know your people well and watch for signs of fraud and embezzlement. Fraud or embezzlement may bankrupt your business.

3. Stay out of disputes and lawsuits whenever possible. Solving lawsuits through arbitration or compromise is generally

cheaper. Also credit reporting agencies always note the number of lawsuits, attachments and judgments recorded against contractors. Surety companies and banks always receive copies of these reports. A history of litigation may scare away bankers and surety agents. An arbitration clause or other effective means of settling disputes should be specified in any construction contract entered into.

4. Recognize your surety agent, insurance agent, and banker as integral parts of your organization. Consult with them regularly. They all want you to succeed and can provide valuable assistance.

5. Keep in the direct flow of money from the owner. If you are a general contractor this is no problem but, if you are a subcontractor this may be very difficult. Try to contract directly with owners as a prime contractor. As a prime your work may still be scheduled and coordinated by the general but you are paid directly by the owner. This reduces delays in receiving your money, and loss of your money through default by the general.

6. Ensure all construction contracts you enter into have a changed condition clause as a general condition that requires the owner to pay for the unexpected. The owner should not be the arbiter of whether the unexpected has occurred and the contract should state that it is based on an assumed/described set of facts.

7. When the prime rate goes up prepare for difficult times immediately. If economist predict that interest rates are going high and will stay there a while, selling equipment and laying off personnel may be necessary.

8. Other indicators should be watched such as unemployment and inflation to adjust bidding strategies accordingly.

5.3 Recommendations For Future Work

During the course of this research several encounters with very interesting facts and topics occurred. One very interesting study found late in the development of this paper, was one done by **Contractor Profit News**. A short magazine article (provided in **Appendix B** as correspondence from the Surety Association of America) discussing the study provided several very interesting facts. The study contains data on 183 firms throughout the country. For future studies concerning contractor failures, profitability, productivity, and union statistics this would most likely be a very helpful source. The complete study is available from Contractor Profit News, 10 Midland Ave., Newton, MA 02158. The cost for the full report is $95 prepaid.

A book recommended from the AGC on construction failures is "A Contractors Survival Guide" written by Thomas C. Schleifer. Mr. Schleifer was a contractor that did so well at taking over troubled construction companies and making them profitable or helping firms get back on their feet, that he quit contracting and salvaged construction companies full time. He later became a national speaker for the AGC on construction firm failures. He is now a professor at East Carolina University in Greenville North Carolina. His address for a future reference is 2 Upton Court, Greenville, North Carolina 27858-8530. The publishing company of his book is

Aslan Press, 6731 Curran St., McClean, Virginia 22101.

An issue that was not dealt with much was the influence of government policy on small construction firms. Most articles just mention it but never evaluated it very closely.

A computer game called CONSTRUCTO* could be a very informative modeling or simulation tool for new or experienced construction managers. The game is project oriented and has been developed to give the manager an environment in which he can experience to some degree the dynamics of project management. It is designed to present the manager with realistic data projections that form the basis of decision making to control cost and time. CONSTRUCTO confronts the player with simulated situations described in terms of environmental and economic parameters and places him in the position of being in charge of a construction project. Weather, economics, and productivity are all used by the program to develop the construction environment. Network or critical path diagrams are used to represent the project model. This game could perhaps be evaluated to determine its true educational value. Perhaps an entire course could be developed around this computer program allowing students to experience through simulation the effects of the marketplace upon a construction project. The students could perhaps learn the thought processes required to keep a construction project from default.

---

* CONSTRUCTO is a heuristic game for construction by Halpin and Woodhead. The description of the came was found in the text **Financial & Cost Concepts for Construction Management** by Daniel W. Halpin, John Wiley & Sons, Inc., 1985, p. 319.

A professor Bernard L. Webb of the Georgia State University Department of Risk Management and Insurance, phone (404) 651-2733, has recently completed or nearly completed a study on bonding of minority construction firms. His study must deal with firm failures and may be a good source for anyone looking at that particular segment of construction firms.

Another possibly helpful text on construction failures is entitled "**Construction Failures**". It was described in a packet of book descriptions mailed to my home by Wiley Professional Books-By-Mail. It may be another good source for anyone interested in continuing the research of this paper. The book publisher's address is John Wiley and Sons Inc., Department 063, One Wiley Drive, Somerset New Jersey, 08875-9977. It was edited by Robert F. Cushman, Irvin E Richter, and Lester E. Rivelis. The cost of the book was $95.00.

Bibliography

[Adams89] Adams, Jack of Fidelity & Deposit Company of Maryland. An interview conducted on August 28 1989 in Atlanta Georgia.

[Barnette89] Barnette, Ray. of The Surety Group. An interview conducted on August 28, 1989 in Atlanta Georgia.

[Choate85] Choate and Walter. **America In Ruins.** 1983

[Dun & Brad87] Dun & Bradstreet. **US Business Failures Show No Growth In 1987 For The First Time In Eight Years.** News, The Dun & Bradstreet Corporation, Feb 5 1987.

[Dun & Brad88] Dun & Bradstreet, Business Economics Division. **Business Failure Record 1953-88.** New York: Dun & Bradstreet Inc, through 1988.

[Dun & Brad52] Dun & Bradstreet. **Commercial Failures In An Era Of Business Progress 1900-1952.** Dun & Bradstreet, 1952.

[ENR1/89] "Outlook 89." **ENR**, 19 Jan 1989, pp. 43-78.

[ENR3/89] "Lawyers: Whose Side Are They On?" **ENR**, 16 March 1989, pp. 22-28.

[ENR3/89A] "Construction Costs Reach Top Floor." **ENR**, 23 March 1989, pp. 35-50.

[Frein80] Frein, Joseph P. **Handbook of Construction Management And Organization,** 2nd Edition. New York: Van Nostrand Reinhold Co, 1980.

[Halpin85] Halpin, Daniel W. **Financial & Cost Concepts for Construction Management.** New York: John Wiley & Sons, 1985.

[Hanke89] Hanke, Walter of the SBA. An interview conducted on August 30 1989 in Atlanta Georgia.

[Huber89] Huber, Mark of The National Association of Surety Bond Producers. An interview conducted on September 12 1989 over the phone to Bethesda, Maryland.

[Masud89] Masud, S. C., "SBA To Get 1st FTS Data Service." **Government Computer News.** September 4, 1989, Vol 8, Number 1, pp. 1.

[McManamy8/89] McManamy, Bob. "Subs Still Enjoying Resurgence." **ENR**, 24 Aug 1989, p. 34.

[NIPAT88] National Income and Wealth Division, Bureau of Economic Analysis, US Department of Commerce. **National Income and Products Accounts Tables.** Washington DC. 1988. (Available in Government Documents/Maps Dept. Georgia Tech Price Gilbert Memorial Library).

[Platt85] Platt, Harlan D. **Why Companies Fail, Strategies for Detecting, Avoiding, and Profiting from Bankruptcy.** Lexington Books, D.C. Heath and Company, Lexington, Massachusetts, 1985.

[Provost89] Provost, Lloyd of The Surety Association Of America. An interview conducted on 12 September 1989 over the phone to Iselin New Jersey.

[SAA&NASBP88] **Losses In Private Sector Construction Due To Contractor Failure.** The Surety Association of America and The National Association Of Surety Bond Producers (jointly). Survey by Audrey Inc., March 1988.

[SBA 89] Small Business Administration. **The State of Small Business**, A Report of the President. Washington, DC: Government Printing Office, 1989.

[SBA 88] Small Business Administration, Office of Advocacy. **Handbook of Small Business Data 1988.** US Government Printing Office, Washington DC, 1988.

[SBA 87] Small Business Administration. **The State of Small Business**, A Report of the President. Washington DC: Government Printing Office, 1987.

[SBA 81] Small Business Administration, Office of the Advocacy. **Economic Research on Small Business: The Environment For Entrepreneurship And Small Business**, Summary Analysis of the Regional Research Reports. Washington DC: Government Printing Office, 1981

[SBA 79] Small Business Administration, Office of Chief Counsel for Advocacy. **Government Paperwork And Small Business: Problems And Solutions.** 1979.

[SBA 61] Small Business Administration, Office of Management and Research Assistance, Management Methods Divisions. **The First Two Years: Problems of Small Firm Growth and Survival**, by Kurt B. Mayer and Sidney Goldstein, Department of Sociology and Anthropology, Brown University. Government Printing Office, Washington, D.C., 1961.

[SUB86] "Small Firms Have Most Profit." **The Subcontractor.** ASA, March 1986.

[Wharton88] **Wharton Econometrics Forecasting Associates Group,** (Available in Government Documents/Maps Dept. Georgia Tech Price Gilbert Memorial Library.)

[Wironen88] Wironen, Alan M. **Small Business Administration Impacts On The Construction Industry,** Special Research Problem. Georgia Institute of Technology, School of Civil Engineering. Atlanta Georgia, August 1988.

APPENDIX A

INTERVIEW SUMMARIES

Following are 6 interview summaries. The interviews were conducted informally between the author and the person named. Attempt was made to allow the persons being interviewed to discuss whatever they felt relevant to the topic however, sometimes questions were used (in no particular order) to spur conversation. Some interviews were conducted over the telephone as individuals called in response to correspondence mailed to them. A copy of all correspondence resulting from this study is provided in Appendix B followed by any written response or applicable material received in answer to the correspondence.

INTERVIEW SUMMARY

Date: 28 August 1989
Interviewed: Mr. Ray Barnette
The Surety Group, Inc.
1706 Defoor PL NW
Atlanta, Georgia
(404) 352-8211

Mr. Barnette is an independent insurance and surety bond agent with a construction firm clientele of over 150. He routinely deals with construction firm problems and was very helpful and willing to discuss the topic of construction firm failures with me. Note that his company sales surety bonds, but insurance underwriters that review the contractors financial condition must approve each sale.

The following is a summary of Mr. Barnette's comments when asked what he felt from his experience were major reasons not controllable by a firm's management that a small construction firm might fail.

1. As interest rates increase the market draws up lessening the amount of work available. Thus more people are bidding on less work and the competitiveness gets fierce. Profit margins are lowered and their is no cushion for mistakes. The quickest way to get the economy going again is to reduce interest rates.

Another problem with interest rates occurred in the late 70's to early 80's. During this period interest rates were very high and the insurance industry as a whole lowered their requirements and premiums to gain more capital for investing. The high interest rates were so attractive to the insurance industry that they were more interested in getting their premiums than keeping troubled jobs going. This caused several failures. Also surety is only 1.5 percent of the insurance industry, so the insurance industry was not very concerned with impacts to the construction industry. In 1985-87 the interest rates went back down and surety underwriters instantly tightened up on the availability of surety bonds.

2. The level of spending by the government can also cause problems. If there is a drop in spending in a particular area of construction such as highways, defense, or public works that particular field of construction draws tighter and profit margins are reduced to get jobs.

3. Small construction firms tend to fail quicker in difficult times than large firms do however they tend to bounce back quicker when construction picks back up.

4. Not out of the control of the firms management is a frequent and significant problem, refusal to reduce overhead. In hard times as

the number of jobs drop off contractors traditionally refuse to layoff employees. A contractors favorite saying when asked why he failed is, "there wasn't enough work". When asked why didn't he cut his overhead he generally states, "I thought I was going to get that job". Therefore failure to react to changing market conditions can cause failures.

5. **Technical complexity** is becoming a serious problem. Sometimes jobs are so complex that you can be a very good contractor but fail due to the "complexity factor". A lot of unknowns exist in many new types of designs specified by engineers and architects. Contractors are generally held accountable for more than their share of the design's success. Contractors just can't be expected to solve all of the architect's and engineer's problems. There has been a lot of litigation in this area.

6. **Long term warranties** are a relatively new contract stipulation that owners want which are causing construction firm failures. Surety companies generally will not even bond jobs with long term warranties. The problem occurs when a contractor such as a roofing contractor agrees to a 5 year roof warranty, installs the roof according to plans, specifications, and inspections and the roof goes bad at 4 1/2 years. The contractor must then spend considerable amounts of his own funds to put the roof back into working order even though it was installed properly.

7. **Death of the firm's owner** generally results in the firm's failure. We average about one death a year out of 150 construction firms. Contractors don't plan for their deaths and new management generally can't seem to management the firm as well as the original owner. Bonding companies usually require continuation plans with group coverage and key man insurance.

8. **A banks refusal to lend money** can cause a construction firm to fail. If a contractor has a job going and needs more money to finish the job he may not be able to get it. His credit rating may change during the course of a job and prevent him from future borrowing and possibly cause default. Or it may cause inability to bid on a needed job.

Below are comments when asked what type of contractors fail more often than others.

9. General contractors generally do better than all others because they are closer to the money source. Money passes to the general contractor first then flows down to the subs. Also they have less people on their payroll. Surety companies and banks are very hard on subcontractors. They must have a much better credit history than the generals.

10. Sewer and water contractors, roofing contractors, and swimming

pool contractors tend to be the riskiest. Concrete contractors are generally a good bet.

11. Sewer and water contractors have problems because they are subject to a lot more unknowns than others. They are highly affected by the weather and have a lot of problems with safety. The pollution people are always after them. And the complexity of piping systems in plants is a real nightmare.

12. Roofing contractors have a high failure rate because they have generally come up through the ranks as a roofer and not had the proper business and managerial training needed to successfully run a business. They are not technically knowledgeable enough to stay up with and utilize the new products. And engineers and architects continually specify new unfamiliar types of roofs.

Mr. Barnette suggested the following as other sources of information:

a. Mr. Gene Merriday
   Small Business Administration, Surety Bond Manager for this Region. 347-2441
b. Lynn Brown
   Small Business Administration, Surety Bond Mgr. for Georgia
c. Fidelity & Deposit Co. of Maryland
   Mr. Jack Adams
   399-5645
d. US Fidelity & Guarantee
e. Continental Insurance Group
f. Surety Association of America

INTERVIEW SUMMARY

Date: 30 August 1989
Interviewed: Walter Hanke
Small Business Administration
Regional Finance Office, Surety Bond Coordinator
1375 Peachtree
Suite 506
Atlanta, Ga.
(404) 347-2386

Mr. Hanke is the SBA's regional surety bond coordinator. He routinely deals with construction firm problems/failures and was very helpful in providing additional sources of information. He provided the attached list of default codes and checklist for new accounts used by the SBA. The SBA surety bond fact sheet that follows the checklist came from an information packet the SBA provides when someone inquires about their assistance programs.

Mr. Hanke's chose not to speculate very much as to the reasons for non-management construction firm failures except for the following, while reviewing the SBA default code.

1. **Bad Weather**, lasting longer than normally expected can cause serious problems when a construction contract includes stiff penalty clauses for delay.

2. **Embezzlement** by employees has placed many small companies in financial difficulties and even to fail.

3. **Illness and death** is also a problem when it involves the owner but to combat against this problem the SBA requires continuation plans as mentioned in number 16 of the attached checklist for new accounts.

4. **Increasing interest rates** cause contractors serious financial problems since most construction loans are at a variable rate, not fixed like restaurants and other businesses are able to get.

The following is a list of additional sources suggested by Mr. Hanke:

a. Surety Association Of America
100 Wood Avenue South
Iselin NJ 08830
(201) 494-7600
Mr. Lloyd Provost

b. National Association of Surety Bond Producers
6391 Arlington Road

Suite 308
Bethesda, Maryland 20814
(301) 986-4166

c. The American Surety Association
1029 Vermont Ave NW
Suite 800
Washington DC 20005
(202) 737-2696

d. American Subcontractors Association
1004 Duke Street
Alexandria, Va 22314-3512
(703) 684-3450

e. Grant Thornton, Accountant & Management Consultants
2300 Gas Light Tower
Atlanta, GA 30303-1499
(404) 688-7195

f. SBA Surety Bond Claims Office
4040 North Fairfax Dr.
Room 500
Arlington, VA 22203
(703) 235-2900
Barbara Racine, Claims Manager
or Bob Johnson, Underwriting Manager

g. Georgia State University
Department of Risk Management & Insurance
University Plaza
Bernard L Webb
Professor of Actuarial Science & Risk Management
(404) 651-2733

APPENDIX 15b

(Paragraph 35)

DEFAULT CODES - REASON FOR DEFAULT
(SBA Forms 1101, Blocks 20 & 21)

Code

1. Underbidding
2. Weather/natural disasters
3. Shortage in critical materials/delays in receiving same
4. Alleged embezzlement
5. Financial mismanagement
6. Incompetence/poor workmanship
7. Union strike/labor trouble
8. Illness or death of key employee
9. Walked off job
10. Dispute with obligee
11. Possible fraudulent operation on part of principal
12. Despondency
13. Co-mingling of funds
14. General's subcontractor in default
15. Sub's general in default
16. Possible sub-busting on part of general
17. IRS lien
18. Sub's general behind schedule
19. Unforseen physical obstacle
20. Shortage of labor
21. Principal fails to appear at job site to begin work
22. Fire damage
23. Materialman lien
24. Labor lien

SBA FORM 988A (5-73) REF 00232 REPLACES PREVIOUS EDITIONS AND SBA FORM 988B

CHECKLIST FOR NEW ACCOUNT

TO ALL PARTICIPATING SURETIES:

When submitting a new application, the following information is required: Please forward a copy of this memo with items checked.

[ ] 1. Forms 994 [ ] 994B [ ] 994F [ ] 990 [ ] 912 [ ] 1261 [ ] SBA Fees [ ]

[ ] 2. General Agreement of Idemnity.

[ ] 3. Signed and dated financial statements for past 3 years F/E. Current F/S to be within 90 days if last Y/E is not. Tax returns, when requested.

[ ] 4 Signed and dated current personal financial statements.

[ ] 5. Affiliated Financial Statements.

[ ] 6. Subordination Agreements.

[ ] 7. Letters of funding in instance of Public Body, Church, Public School, etc.

[ ] 8. Letters from suppliers concerning credit ability.

[ ] 9. Credit Report of applicants for jobs exceeding $250,000.

[ ] 10. Letter from past Obligees concerning performance and capacity of contractor.

[ ] 11. Full resums of past training and working history of Officers, Owners Partners.

[ ] 12. Copy of Bid Invitation/Contract. Bond must be required by these documents.

[ ] 13. Letter from bank of account concerning balances of checking account, current loan position (including collateralized and line of credit) and bank's general statement concerning contractor.

[ ] 14. Letter of recommendation from Agent stating why bond cannot be issued without SBA assistance and results of prior surety checks.

[ ] 15. If joint venture, copy of formal joint venture agreement.

[ ] 16. Business Plan is required for all new contractors. Plan to include: A summary of the contractors growth to the present, his plans for business activity for the next 12 month and a description of Management experience and continuity provision.

Thank you for your cooperation.

Walter G. Hanke, Jr.,
Surety Bond Coordinator

FACT SHEET

SURETY BOND GUARANTEE

WHAT DOES SBA GUARANTEE?

SBA is not authorized to issue direct bonds. Bonds must be issued by a Surety and SBA participates by a guarantee up to 80 percent of any loss incurred by a surety company as a result of their issuance of a bond.

CONTRACT SIZE LIMITATION

Individual contracts of $1,250,000 or less are eligible for SBA's bond guarantee. There is no limit to the number of bonds that can be guaranteed for any one contractor.

ELIGIBILITY - SMALL BUSINESS AND BONDS

Determination of whether an applicant is eligible with respect to the SBA size standards shall be in accordance with 13 CFR Part 121.4(h)(2) of SBA's published Rules and Regulations. Some suppliers such as fabricators, are under other categories of 13 CFR and this will have to be determined by the SBA Surety Bond Office. Gross receipts cannot exceed $3,500,000 averaged over the past three contractor's fiscal years. The bond situation must be covered in the Contract Section of the Surety Association of America Rating Manual. The bond must be required in the contract.

WHO CAN BENEFIT

The Surety Bond Guarantee Program can benefit any small business that is required to have a bid, performance, or payment bond in order to obtain a contract; including, but not limited to, firms in construction, service and supply work.

HOW TO APPLY

Applicant contacts a participating Agent for their determination of whether they will issue the bond direct or request SBA participation. Should applicant not be able to locate an Agent who participates in the Surety Bond Guarantee Program, contact with the nearest SBA Surety Bond Office may be made for participating Agents in your area. All necessary Underwriting will be done by the Agent. This will include current financial, performance and other operating capabilities.

COST

All final bond applications, and all bid bonds resulting in awards, require a processing fee of $6.00 per thousand dollars of the contract face value. NOTE: CONTRACT, NOT BOND AMOUNT. The processing fee is paid by the contractor. In the event of cancellation, or if for some reason the bond is not issued, the processing fee will be returned. When the bond is issued, the contractor will pay the Surety company's bond premium. This charge cannot exceed 1.8% ($18.00 per thousand) of the contract amount.

WHAT HELP SBA CAN PROVIDE

Counseling is available on request from our Office of Management Assistance, SCORE Program, and our Minority Small Business personnel. This assistance may be requested from the SBA District Office serving your area.

INTERVIEW SUMMARY

Date: 28 August 1989
Interviewed: Mr. Jack Adams
Fidelity And Deposit Company of Maryland
900 Ashwood Parkway, Dunwoody (Wang Bldg.)
Atlanta, GA
(404) 399-5645

Mr. Adams is surety bond manager for Fidelity and Deposit which is a large insurance underwriter. He routinely deals with construction firm problems and was very helpful and willing to discuss the topic of construction firm failures with me. Fidelity and Deposit sells surety bonds directly to the contractors and also underwrites to independent surety agents.

The following is a summary of Mr. Adams's comments when asked various questions.

Question: What from his experience were major reasons not controllable by a firm's management that a small construction firm might fail.

1. Something not controllable by a firms management that has recently been a growing problem is default by Savings & Loans and even banks. Several Savings & Loans have been declared insolvent with which contractors had loans leaving the contractors with no money right in the middle of a project. This only affects the public sector jobs since this would not be a problem with government jobs. This has caused bonding companies to begin looking into the financial condition of the lending institution before issuing a bond.

Question: Are there are any general indicators they use to adjust their bonding strategy such as watching the prime lending rate or government spending?

2. The prime rate shouldn't affect a job once it is underway. Economic indicators are used primarily for planing purposes to predict the amount of business to expect. Not as a means to reduce or increase the amount of bonding provided. No money can be made with surety bonds if they aren't selling them. And there seems always to be a demand for them even in difficult times. When interest rates are high private construction drops off. We don't quit writing bonds when interest rates go up, the construction industry just asks for less since less jobs are available. To protect our investment we look primarily at the contractor and his credit rating. The government seems always to be able to spend a

good amount of money in construction even in economic slumps. Therefore private construction is affected more by a rise in interest rates than government construction. In the late 70's to early 80's when interest rates went real high, as much 20%, loosened their requirements and lowered their premiums to get more money to invest. The entire insurance industry wanted to take advantage of the high interest rates. A lot of construction companies were able to get bonded for more jobs than they could handle. They just didn't have the resources to keep all of their jobs going and many defaulted. Also a lot of financially weak construction companies were able to get bonds which increased competition and reduced profit margins. Once the interest rates dropped the insurance immediately increased their surety rates.

Question: Is death of a key person a concern?

3. Historically death is one of the biggest causes of failure. The second generation management just can't run the business as well as the original owner.

Question: Is the high rate of personnel turnover in the construction a problem?

4. Personnel turnover is not a big problem or not a cause for failure because if a company is doing well the employees will generally stick around. It is when the company starts having problems that people start looking for other jobs.

Question: Is technical complexity of today's construction a possible reason for failures?

5. Yes, you must always look at a contractors expertise or construction specialty or if he is using a new type of construction specified by an A&E. Another type job that causes problems are high profile jobs. These jobs get in the news and are delayed by special interest groups. Contractors can have lots of money and equipment tied up in these projects. The delays hurt him by disrupting his schedules.

Question: Are their any types of contractors that fail more than others.

6. Subcontractors are underwritten much closer than general contractors since they are further away from the money. Most surety companies try not to bond subs. Some specialty contractors are getting involved with long term warranties such as for roofs and get burnt years after construction.

INTERVIEW SUMMARY

Date: 5 September 1989
Interviewed: Mr. Gary Fowler
Associated General Contractors, Atlanta Chapter
147 Harris Street NW
Atlanta, GA.
(404) 522-5941

This phone call was initiated by the author in attempt to get the address of the National AGC as well as gain local sources of information. I spoke with a Mr. Gary Fowler of the Atlanta AGC. He was very receptive but unable to provide me with much information. He did provide a few possible information sources (Means and Dodge) and gave me the address to the National AGC. He also stated that the national AGC got all of its information from Dun & Bradstreet and probably would not have anything in addition to what I already had.

He stated that in his chapter's history since 1929 only 2 of their construction companies had been taken over by bonding companies. One failure occurred when the firms owner received a serious back injury and the individual running the firm in the owner's absence ran the company into bankruptcy. He didn't remember why the other failed. He felt their good record was due to their good information exchange. When ask what he thought were the biggest problems resulting in failure of firms today he said underbidding and not keeping track of projects.

He suggested a book that may be a good reference called "A Contractors Survival Guide" by Thomas C. Schleifer. Mr. Schleifer was once a contractor who got into the business of providing management assistance to save troubled construction firms from failure. He did so well at it that the AGC hired him to go on tour around the country giving speeches on how to save construction firms from failure. Today Mr. Schleifer still does some work for the AGC but is employed full time as a professor at East Carolina University in Greenville NC. His address is;

2 Upton Court
Greenville, NC 27858-8530

His book is published by; Aslan Press
6731 Curran St.
McClean Va. 22101

The Address of the National AGC is;
1957 E Street NW
Washington, DC 20006

INTERVIEW SUMMARY

Date: 12 September 1989
Interviewed: Mr. Lloyd Provost
Surety Association of America
100 Wood Ave South
Iselin, NJ 08830
(202) 494-7600

This interview was conducted over the phone with a Mr. Provost who is Vice President of the Surety Association of America (SAA). The SAA is a trade association founded in 1908 that provides surety rate statistics and other data to its members.
Mr. Provost called in response to the correspondence shown in Appendix B asking for his assistance. He was very congenial and seemed extremely knowledgeable of the surety industry and construction. Before becoming vice president of the SAA he was a surety underwriter for many years.

Mr. Provost expressed that to his knowledge their is no published information on construction failures outside of the statistics published by Dun & Bradstreet quarterly and annually. He suggested the reason for this lack of information is that sureties, banks, and any other institution involved in the financing and surety process of a construction project invest their time and resources on the front end to evaluate the stability and financial condition of a contractor. The processes following a contractors failure do not lend themselves to recording of statistics. When a contractor fails there is no interest in spending anymore time or money than is absolutely required to complete the necessary proceedings. And no one is willing to spend their resources to keep statistics beyond that which is deemed necessary for their particular organization. The majority of US construction contractors have less than 4 employees and not much attention is paid to their failure. The contractors themselves are more concerned with what is next than providing information as to the reasons for their failure. Also if records were kept based primarily on the failed contractors opinion of why he failed the records would be of limited value because many contractors don't know why they failed. And failures are usually a result of a combination of events. It would be very difficult to pinpoint or narrow down the reasons for most failures to one or two.

Discussion then ensued concerning his ideas on the reasons for construction firm failures and is summarized below.

1. An uneven economic climate ..any times results in failures since construction profit margins are typically slim. The public has a misconception of the amount of profit contracting firms receive for their efforts. Large firms generally have very small profit margins of about 0.5 percent. Small firms generally have

margins of between 3 and 5 percent. As interest rates go up profits are eaten up. Companies have bid too low to many times and gone bankrupt. A project can be running fine and the unexpected happens costing the contractor a lot of money and he defaults. Material prices should be watched by contractors. The price of copper is a good example. Small increases in copper can increase the price of a project significantly.

2. Regional economics are a problem. In the 70's we had relative prosperity on both costs with several pockets in middle America that were in trouble such as the corn belt and oil producing regions. These regions were dependent upon their local economics for survival.

3. The increasing amount of litigation and the adversarial nature or relationship between builders and contractors and contractors and subcontractors tends to bring construction down. Even partners generally blame each other when their firm fails. Even the high and rising cost of litigation contributes to construction firm failures.

When asked what contractor specialties he felt had the greatest rate of failure he responded as follows. Summarizing;

Roofing contractors get into trouble primarily because of long term guarantees. When a roof leaks the owner knows about it right away and wants it repaired immediately. Roof leaks are hard to miss with buckets placed everywhere to catch the incoming rain. Many roof manufactures guarantee there roofs to last 20 years and the owners try to incorporate that into the construction contract. Contracts must be read thoroughly to prevent such inclusions. If an owner wants a 20 year warranty on his roof he should deal with the manufacture and not try to hold the contractor responsible for manufacture defects or misrepresentations. The one year construction warranty for materials and workmanship should be all that is included in the construction contract.

Electrical contractors tend to fail more often than most others. Possibly because of their high labor costs and they tend to have a great number of wide variety jobs all going at the same time. Their management is possibly spread too thin.

Paving contractors seem to do alright possibly because of the ability to quickly get in, complete their job and get their money. Also their type of construction is not as complex as say the electrical contractor.

Mr. Provost explained that surety companies deal with only a very small percentage of the nations contractors. Many owners and contractors never use surety bonds. Although almost all federal, state, and local contracts require their contractor to purchase performance bonds that only accounts for a small percent of the construction in this country. There are about 800,000 contractors in the US of which about 30,000 purchase construction bonds. Only

about 15 percent of surety premiums are from private construction firms. The private owner has much more flexibility in selecting a contractor than government agencies. The private owner can go out and pick his contractor based on what ever requirements he chooses. He has no requirement to stipulate bonding as a prerequisite for awarding projects. Private owners tend to work with contractors they are familiar with and trust. The large firms that build all over the country usually require bonding because they don't have close relationships with contractors everywhere they build and feel the added protection is well worth the expense.

INTERVIEW SUMMARY

Date: 12 September 1989
Interviewed: Mr. Mark Huber
National Association of Surety Bond Producers
6931 Arlington Road
Suite 308
Bethesda, Maryland 20814
(301) 986-4166

This interview was conducted over the phone with Mr. Huber of the National Association of Surety Bond Producers. He called in response to correspondence previously mailed to his organization as provided in Appendix B. He was very nice but unable to provide any information requested since his association does not keep nor compile any such statistics. He stated he did not know of any organization besides Dun & Bradstreet that collected the kind of failure statistics requested. He recommended Dun & Bradstreet and McGraw-Hill as sources of information and also the Fails Management Institute in Atlanta. The Fails Management Institute is a firm that provides consulting and management services to surety companies and contractors as well as others dealing with default and bankruptcy. CMA of New Jersey was another management consulting firm that was recommended as a possible source of information.

INTERVIEW SUMMARY

Date: 15 September 1989
Interviewed: Ruth Bernstien
The American Surety Association
1029 Vermont Ave NW
Suite 800
Washington DC 20005

Ruth Berstien phoned as a representative of the American Surety Association in response to the letter mailed to them on September 5th 1989. She stated that they are a very small trade organization and do not keep statistics on anything that could help me in my research.

APPENDIX B

CORRESPONDENCE
(Arranged By Date)

This appendix contains all of the written correspondence generated by this research. Any written response as a consequence of a particular letter is provided immediately following that letter. Phone calls as a response to any of the following letters are presented as interviews in Appendix A.

2945 Bent Creek Lane
Kennesaw, GA. 30144
May 8, 1989

US Small Business Administration
Office Of Economic Research
1441 L Street
Premier Bldg. Rm 414
Washington DC 20416

To whom it may concern:

I am a graduate student at Georgia Institute of Technology and am presently starting work on my master's research paper. My principal area of study at Georgia Tech is Construction Management and for my paper I have chosen to research trends in the small construction industry. My attempts at finding data on this topic so far have uncovered very little. Through local SBA officials I was informed of possible assistance through your office and am excited at the prospect of your assistance. Thus I am writing this letter in request of your assistance.

First of all let me say, I understand there will probably be at least a $10.00 charge to fill my request. But that is the extent of my knowledge concerning your fees. Please, in the processing of my request keep in mind that I would like to be consulted if the fee will be more than $50.00. If there is any action on my part that could speed up the process such as mailing the fee now, answering questions about my request, or if you have suggestions that might aid my research please feel free to call me at (404) 426-1944 collect. Also, call if my request cannot be filled within 2 to 3 weeks.

What I am looking for is primarily any statistical or other information involving start-ups, survivals and failures of small construction contractors throughout the US. I would prefer the information be in some sort of tabular format but will be happy to accept it in any form available. The specific information I am looking for is as listed below;

Construction firm starts/failures over the past <u>20 years</u> by:

- -type (ie. electrical, mechanical, & general contractors others if possible, please indicate if the contractors were assisted by SBA or not, or if your information involves only those assisted by the SBA)
- -numbers (ie. totals of each of the above types and geographical location)
- -owner (age, sex and race, again related to each of the above contractor types)
- -dates (dates associated with the contractor starts and

failures above)

-financial (any financial information related to the above contractor's financial stability and profitability such as annual revenues, earnings, total assets etc.)

-labor (any labor force statistics related strictly to small construction firms such as wages, race, sex, age, years working in construction etc.)

-reasons for failures (I realize you may not have much on this but would truly appreciate your perseverance when looking)

I am attempting to study trends in the success and failure of small construction firms. As an additional issue I wish to discuss the assistance offered by SBA and statistics concerning the SBA's effectiveness. Please keep these goals in mind and include any additional information that you feel might be helpful in my research.

Again, I am very appreciative of your help and encourage you to phone me if necessary.

Sincerely,

Thomas J. Foust

2945 Bent Creek Lane
Kennesaw, GA. 30144
June 20, 1989

US Small Business Administration
Office Of Economic Research
1441 L Street
Premier Bldg. Rm 414
Washington DC 20416

To whom it may concern:

In early May I sent the attached letter to your office requesting information I need for a masters degree research paper I'm doing. I know my letter was received because an employee phoned me with some very promising information about my request on May 12th. Yesterday I phoned your office to inquire about the status of my request and found out my request was no where to be found. I then gave Mr. Dickson my request over the phone to save time but I'm not sure I was able to relay everything I needed properly. Please review my attached letter again, which defines in detail what I need when preparing my request. Also, please consider I had mailed an earlier request that was apparently lost and place this request ahead of others so that I might receive it as soon as possible. I need the information quickly to meet school deadlines with my paper.
My address is at the top of both of these letters but I will repeat it here for your convenience.

Thomas J Foust
2945 Bent Creek Lane
Kennesaw, GA. 30144

Phone (404) 426-1944

Thanks again for your assistance and please call me if preparation and mailing of my requested information will take longer than a week.

Sincerely,

Thomas J. Foust

U.S. SMALL BUSINESS ADMINISTRATION
WASHINGTON, D.C. 20416

OFFICE OF CHIEF COUNSEL FOR ADVOCACY

June 20, 1989

Thomas Foust
2945 Bent Creek Lane
Kennesaw, Georgia 30144

Dear Mr. Foust:

Working with data base member Kim Beverly, I have tried to fulfill your request. We were unable to retrieve dates for contractors starts and failures. Some information, as you can see, has been provided in hard copy fashion. At the suggestion of Ms. Beverly, I have enclosed an order form for various publication and reports. The Handbook of Small Business Data will be a very informative and reliable source. If you have any further questions or requests, feel free to contact me at 202-634-7550. Thank you for referring to our office.

Respectfully,

Steve Dixon
Office of Economic Research

Key Business Information Resources Prepared by the U.S. Small Business Administration

The State of Small Business: A Report of the President

Since its initial publication in 1982, this annual report has established itself as the authoritative source of information on small business. It reports on the current economic climate for small businesses, including job creation, business formation, earnings, failure and bankruptcy rates, and the current outlook for new and small businesses. Separate sections of the volume report on financing trends for small businesses and on federal procurement from small businesses during the preceding fiscal year. Detailed supplementary tables in each year's report provide both current and historical data.

1987 / 345 pp. Softcover / Stock no. 045-000-00246-2 / $10.00
1988 / 227 pp. Softcover / Stock no. 045-000-00249-7 / $7.00
1989 / 196 pp. Softcover / Stock no. 045-000-00255-1 / $6.00

Small Business in the American Economy

This book is a companion volume to the 1988 edition of *The State of Small Business*. It provides an in-depth look at employee training in small firms, small businesses in the manufacturing industries, the growth and characteristics of women-owned businesses, the phenomenon of entrepreneurship in minority communities, and a look at what the state of small business will be in the year 2000. Numerous tables and charts throughout the text amplify the analysis.

1988 / 214 pp. Softcover / Stock no. 045-000-00252-7 / $6.50

Handbook of Small Business Data

Drawing on the unique resources of the Small Business Data Base maintained by the SBA's Office of Advocacy, this volume is a detailed sourcebook of current statistics on small business. In over 50 tables, users will find such information on small businesses as their number; their geographic location by region, state, and Metropolitan Statistical Area; their current number of employees and historical data on small-business employment from 1976; their industrial distribution; and a comparison of the Small Business Data Base with other statistical compilations, such as those published by the Bureau of Labor Statistics and the Bureau of the Census. The text that accompanies these tables offers the reader clear explanations of the make-up of the small-business sector of the U.S. economy, the various methods used to measure it, and how and why those methods agree or differ in their results.

1988 / 344 pp. Softcover / Stock no. 045-000-00253-5 / $10.00

The States and Small Business: A Directory of Programs and Activities 1989 Edition

With its state-by-state listing of offices, programs, and recent legislation affecting small businesses, this biannual publication is an indispensable resource for small business owners, business consultants, and anyone considering starting a business. In it the user will find information on state loan programs, procurement and regulatory assistance, special assistance programs (such as those targeted at high tech industries, minority-owned businesses, rural communities, etc.), trade and export assistance, and recent state legislation affecting small business. A name, address, and telephone number is given for each program or activity described.

1989 / 411 pp. Softcover / Stock no. 045-000-00257-8 / $12.00

Simplified Employee Pensions: What Small Businesses Need to Know

Simplified Employee Pensions—or SEPs—make it vastly simpler for small businesses to offer retirement savings plans to their employees. In an easy-to-follow format, this booklet provides helpful information about SEPs: what they are, how to establish one, and answers to commonly asked questions about SEPs. It is certain to be of use to every small business considering a SEP as a retirement savings vehicle.

1988 / 12 pp. Softcover / Stock no. 045-000-00256-0 / $1.00
(Quantity orders of 100 or more copies qualify for a 25% discount.)

How to Order

Order Processing Code:
*6554

All prices include regular domestic postage and handling. Foreign orders should add an additional 25%. Return this order form with your payment to: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325 or call (202) 783-3238 during daytime hours for orders charged to Visa, Mastercard, Choice, or a GPO Deposit Account.

PLEASE SEND THE FOLLOWING PUBLICATIONS:

Qty	Stock Number	Title	Price	Total
	045-000-00246-2	The State of Small Business 1987	10.00	
	045-000-00249-7	The State of Small Business 1988	7.00	
	045-000-00255-1	The State of Small Business 1989	6.00	
	045-000-00252-7	Small Business in the American Economy	6.50	
	045-000-00253-5	Handbook of Small Business Data	10.00	
	045-000-00257-8	The States and Small Business	12.00	
	045-000-00256-0	Simplified Employee Pensions	1.00	
		Total Cost of Order:		

SHIP TO:

(Name)

(Company)

(Street address)

(City, State, ZIP Code)

(Daytime phone number including area code)

METHOD OF PAYMENT:

☐ Check payable to the Superintendent of Documents

☐ GPO Deposit Account: ☐☐☐☐☐☐☐ ☐

☐ Visa or MasterCard Account Number:

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Expiration Date _____ Signature _____

3/89

U.S. Small Business Administration
Office of Advocacy
Mail Code 3110
1441 L Street NW
Washington, DC 20416

Official Use
Penalty for Private Use, $300

Inside: U.S. Government Books for Business Professionals

Table 3a. Age and Marital Status of Owner by Industry Division: 1982

[All data are shown as percents, except firms. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix A]

	Type of firm and industry division	Firms (number)	Owner's age as of December 31, 1982*						
			Under 25 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over	Not reported
		A	B	C	D	E	F	G	H
1	Hispanic-owned businesses	248 141	3.6	22.3	28.6	24.2	13.8	4.3	3.6
2	Agricultural services, forestry, fishing, and mining	7 640	6.1	22.3	25.8	25.1	12.2	3.7	4.8
3	Construction	26 669	4.3	24.2	29.0	23.5	14.1	2.7	2.2
4	Manufacturing	4 364	2.8	21.5	31.1	24.7	11.2	4.1	4.6
5	Transportation and public utilities	13 155	3.9	22.9	26.1	24.0	16.0	3.3	3.8
6	Wholesale trade	3 623	2.0	18.6	29.7	20.0	16.7	6.0	7.1
7	Retail trade	58 274	3.2	21.1	27.8	26.7	13.3	4.2	3.6
8	Finance, insurance, and real estate	11 123	2.5	18.4	33.2	25.7	12.0	3.7	3.5
9	Selected services	96 279	3.5	22.7	29.1	22.8	13.9	4.7	3.5
10	Industries not classified	24 963	4.3	22.7	28.2	24.7	14.2	4.3	3.5
11	Black-owned businesses	339 239	1.8	17.3	26.3	23.9	18.4	7.8	8.7
12	Agricultural services, forestry, fishing, and mining	5 105	1.7	13.0	19.4	27.1	18.8	11.0	8.0
13	Construction	23 061	1.8	13.4	23.2	26.2	22.2	7.4	6.8
14	Manufacturing	4 171	1.2	17.5	24.8	22.9	15.1	8.2	12.3
15	Transportation and public utilities	24 397	.7	11.6	23.3	28.6	22.7	6.7	6.2
16	Wholesale trade	3 651	.5	27.7	28.0	24.7	12.8	4.5	3.8
17	Retail trade	84 053	2.5	19.3	26.9	24.4	14.7	6.7	5.5
18	Finance, insurance, and real estate	14 829	1.0	17.5	31.9	24.1	13.6	6.9	5.0
19	Selected services	147 263	1.7	18.0	24.8	22.7	19.6	8.0	5.3
20	Industries not classified	32 709	2.4	15.3	24.3	22.7	18.6	9.0	6.6
21	Other minority-owned businesses	258 642	3.6	23.0	32.9	21.3	11.8	3.7	3.8
22	Agricultural services, forestry, fishing, and mining	11 993	5.7	18.1	18.6	18.0	23.1	12.4	4.1
23	Construction	12 351	5.0	28.4	32.4	15.5	12.4	2.8	3.8
24	Manufacturing	4 327	2.2	24.8	31.8	22.3	8.6	3.4	6.1
25	Transportation and public utilities	7 306	7.0	26.2	30.1	18.8	10.2	3.0	4.8
26	Wholesale trade	4 234	3.8	21.6	28.7	23.9	11.1	4.8	6.0
27	Retail trade	72 861	3.2	20.8	32.8	24.2	12.4	3.0	3.7
28	Finance, insurance, and real estate	15 295	1.5	19.3	36.9	22.6	11.9	4.6	3.1
29	Selected services	105 421	3.7	24.8	34.9	19.8	10.3	3.3	3.4
30	Industries not classified	21 853	3.9	23.4	29.8	23.7	12.2	3.9	3.2
31	Women-owned businesses	2 884 480	4.0	22.4	28.7	19.6	16.4	7.5	3.4
32	Agricultural services, forestry, fishing, and mining	44 097	5.7	18.9	22.4	13.4	20.3	15.8	3.3
33	Construction	61 665	2.6	20.3	29.2	19.8	17.2	3.8	7.1
34	Manufacturing	49 727	2.3	19.2	27.3	18.5	18.0	8.1	6.6
35	Transportation and public utilities	40 536	3.2	13.5	23.7	26.7	19.6	5.7	7.5
36	Wholesale trade	34 252	4.8	18.1	28.2	19.6	15.2	7.3	6.8
37	Retail trade	727 688	4.9	21.2	26.3	20.6	16.8	7.0	3.2
38	Finance, insurance and real estate	263 734	2.0	13.3	27.1	25.6	19.0	10.1	2.7
39	Selected services	1 401 776	4.0	25.8	27.2	17.2	15.1	6.8	3.1
40	Industries not classified	260 915	4.1	22.1	24.7	19.3	17.0	10.0	2.8
41	Nonminority male-owned businesses	6 886 866	3.3	20.3	24.8	21.9	17.9	6.8	3.8
42	Agricultural services, forestry, fishing, and mining	264 443	5.4	18.8	22.5	20.7	17.9	8.2	6.7
43	Construction	843 162	5.1	23.4	25.6	20.1	18.9	5.4	3.3
44	Manufacturing	174 615	2.3	18.1	26.1	20.2	19.6	9.2	6.5
45	Transportation and public utilities	290 338	3.8	22.8	25.2	24.5	15.8	4.3	3.7
46	Wholesale trade	143 174	1.5	15.8	26.0	22.5	19.5	10.8	4.2
47	Retail trade	1 363 666	2.7	18.2	24.3	25.3	18.7	6.9	3.9
48	Finance, insurance, and real estate	497 143	1.9	14.5	22.7	25.8	20.7	12.0	2.7
49	Selected services	2 548 094	2.9	22.0	24.7	20.4	17.3	9.8	3.0
50	Industries not classified	631 630	4.0	20.9	23.5	19.6	18.0	11.3	2.6

*Data represent percentage of owners reporting in the designated categories.
#For explanation of relative standard errors, see Reliability of Estimates in the introductory text.

Owner's marital status as of December 31, 1982[1]					Relative standard error of estimate[2] for column—												
Never married	Married	Divorced or separated	Widow or widower	Not reported													
I	J	K	L	M	A	B	C	D	E	F	G	H	I	J	K	L	M	
7.8	80.4	8.0	1.8	2.3	-	.2	.5	.5	.5	.3	.1	.2	.3	.3	.2	.1	.1	1
8.9	82.1	6.0	1.5	3.5	1.0	1.1	1.4	1.7	.9	1.4	.7	1.1	1.2	1.8	.7	.8	.7	2
5.9	88.7	5.6	.8	1.2	1.0	.8	1.0	1.4	1.1	.8	.5	.8	.5	1.1	.8	.3	.3	3
8.8	80.8	6.9	1.5	3.0	1.0	.7	1.9	2.1	1.3	.9	.9	.5	1.9	2.6	1.0	.4	.4	4
7.0	82.3	7.7	.7	2.3	1.0	.6	.8	1.3	1.0	1.7	.5	.8	.8	2.0	1.8	.2	.6	5
4.9	81.0	8.1	2.4	3.7	2.0	1.0	2.9	2.9	2.4	1.4	1.1	1.8	1.3	2.9	2.3	1.0	1.2	6
8.3	82.1	7.2	2.2	2.3	1.0	.3	.7	.5	.9	.5	.2	.3	.3	.8	.5	.2	.4	7
5.6	80.9	9.2	1.8	2.5	2.0	.5	1.2	1.5	1.4	.7	1.0	.7	.7	1.8	1.1	.5	.5	8
8.9	77.6	9.1	1.9	2.5	-	.2	.8	.8	.5	.3	.4	.3	.2	.3	.3	.2	.3	9
9.2	78.1	8.6	2.2	1.9	1.0	.5	1.2	1.4	1.3	.8	.4	.4	1.2	1.0	.9	.4	.4	10
7.9	70.1	13.9	4.6	3.6	(X)	.1	.3	.4	.3	.4	.2	.2	.3	.2	.3	.2	.2	11
4.6	85.0	4.7	3.5	2.2		.7	2.8	2.0	2.8	2.3	2.1	1.2	1.3	1.7	1.2	1.2	.8	12
3.6	82.0	8.7	2.5	3.3		.5	.9	1.3	1.6	1.0	.7	.7	.5	1.5	1.1	.7	.8	13
7.9	74.2	8.6	2.3	9.0		.7	3.2	3.4	3.2	2.7	1.3	1.6	1.7	2.7	1.1	.8	1.7	14
4.3	78.1	11.8	2.0	3.8		.3	.9	1.5	1.6	1.2	.8	.8	.5	1.7	1.4	.4	.8	15
12.0	70.5	11.3	2.7	3.5		.4	3.0	1.8	3.8	2.0	1.8	.9	2.4	4.0	2.6	1.5	1.0	16
8.0	88.1	14.8	4.5	3.6		.2	.4	.8	.5	.7	.3	.4	.5	.9	.7	.3	.3	17
6.3	73.4	14.2	3.0	3.1		.3	2.0	1.8	1.3	1.2	.8	.7	.8	1.0	.6	.5	.7	18
9.1	67.2	14.9	5.4	3.3		.1	.5	.5	.4	.4	.4	.3	.3	.5	.5	.3	.3	19
8.5	67.5	14.7	6.0	4.2		.3	.5	.8	.7	1.2	.7	1.1	.8	1.9	.8	.5	.7	20
8.6	81.6	6.0	1.6	2.2	-	.2	.3	.3	.4	.2	.1	.2	.2	.3	.2	.1	.1	21
9.3	82.4	4.7	1.8	1.7	1.0	.7	1.1	1.1	1.2	1.4	1.4	.6	.8	1.2	.8	.6	.5	22
7.0	85.5	4.3	.5	2.7	2.0	.7	1.9	1.3	1.0	1.5	.6	.9	.9	1.4	.9	.2	.6	23
10.9	77.8	4.6	1.6	4.8	1.0	.5	1.6	2.2	1.9	1.4	.3	1.3	1.1	2.1	.8	.4	1.0	24
11.9	79.4	4.6	.7	3.3	2.0	1.2	1.7	3.0	2.5	1.0	.7	1.5	1.5	1.6	1.1	.4	1.1	25
8.7	83.6	2.7	.8	4.1	2.0	1.7	2.3	2.6	2.0	1.3	1.6	1.8	2.1	2.6	1.0	.7	.9	26
7.7	83.8	4.6	1.8	2.1	1.0	.4	.6	.7	.9	.4	.1	.3	.4	.5	.3	.2	.2	27
8.6	81.9	5.0	1.7	2.8	1.0	.4	1.4	1.2	1.3	.5	.5	.6	1.0	1.6	.6	.4	.6	28
11.2	80.0	5.3	1.5	2.0	-	.2	.5	.5	.6	.3	.2	.2	.4	.4	.2	.1	.1	29
10.6	79.9	6.2	1.9	1.5	1.0	.8	1.0	1.0	1.2	.9	.5	.4	.9	1.2	.5	.4	.3	30
8.9	78.9	11.0	6.4	2.8	(X)	.2	.3	.4	.3	.2	.3	.1	.2	.4	.2	.3	.1	31
10.2	67.8	7.9	11.2	2.9		1.7	2.0	2.3	2.6	1.4	2.9	.8	1.3	1.8	1.1	1.9	.7	32
7.2	78.5	8.5	3.9	5.9		.5	2.2	2.1	1.2	2.3	.7	1.6	1.0	1.5	.4	1.1	1.0	33
10.3	67.9	9.8	8.4	5.7		.5	2.2	1.6	2.7	2.3	.8	1.2	2.0	2.6	.9	1.3	1.1	34
6.0	72.0	9.0	6.0	7.0		.7	2.3	1.8	3.4	2.7	1.5	1.8	1.0	3.7	2.3	1.2	1.9	35
8.7	69.7	7.0	6.5	7.1		1.2	1.6	2.9	1.9	2.7	1.4	2.2	2.3	3.6	1.1	.9	2.3	36
7.7	70.9	11.3	7.2	2.9		.3	.7	.4	.6	.7	.4	.3	.3	.6	.3	.5	.3	37
5.9	72.4	13.2	6.6	2.0		.3	1.0	1.1	1.4	.9	.9	.4	1.0	1.1	.6	.6	.4	38
10.1	71.4	10.6	5.7	2.3		.2	.5	.4	.3	.4	.3	.1	.5	.5	.3	.3	.2	39
10.3	66.6	12.9	7.4	2.7		.7	1.2	1.0	1.1	.5	.8	.3	.7	1.1	1.0	.6	.5	40
7.5	82.3	6.0	1.3	2.8	-	.2	.4	.3	.3	.4	.2	.2	.2	.3	.2	.1	.2	41
10.4	77.7	5.2	1.5	5.2	1.0	1.1	1.3	1.4	1.3	1.5	.9	1.4	1.9	3.2	.8	.4	1.6	42
7.0	83.7	5.3	1.3	2.7	-	.4	1.0	1.0	.9	1.1	.5	.6	.4	.6	.7	.3	.4	43
5.7	81.6	5.0	2.3	5.3	1.0	.4	.9	1.6	1.5	1.3	.9	1.1	.9	1.3	.8	.4	1.1	44
6.3	81.6	8.3	1.0	2.8	-	.9	1.6	1.7	1.7	2.0	.6	.8	.7	1.2	.9	.4	.7	45
7.2	80.6	6.6	1.7	3.6	1.0	.5	1.3	2.1	3.2	1.9	1.7	.8	.9	1.6	1.3	.4	.9	46
5.2	84.6	5.5	1.3	3.2	-	.2	.7	.8	.9	.8	.4	.2	.4	.6	.3	.2	.4	47
6.4	84.3	6.3	1.4	1.6	1.0	.4	.7	1.2	1.3	.9	1.2	.4	.6	1.1	.9	.4	.2	48
8.4	81.1	6.5	1.4	2.6	-	.2	.4	.4	.5	.5	.4	.3	.4	.5	.3	.2	.2	49
9.9	80.7	6.0	1.1	2.3	1.0	.4	.9	1.1	1.1	.8	.6	.6	.8	.8	.6	.3	.4	50

Table 10a. Year and Method Business Was Acquired by Owner, by Industry Division: 1982

[All data are shown as percents, except firms. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix A]

	Type of firm and industry division	Firms (number)	Year owner acquired the business[1]						
			Before 1960	1960 to 1969	1970 to 1975	1976 to 1979	1980 to 1981	1982	Not reported
		A	B	C	D	E	F	G	H
1	Hispanic-owned businesses	248 141	4.6	8.0	13.8	20.7	23.4	21.5	8.3
2	Agricultural services, forestry, fishing, and mining	7 840	5.1	12.1	13.8	19.2	22.2	19.0	8.6
3	Construction	26 699	5.1	7.4	15.8	21.5	21.8	20.5	7.8
4	Manufacturing	4 384	5.1	8.1	16.0	24.0	25.1	17.0	4.7
5	Transportation and public utilities	13 155	4.6	7.7	14.5	22.0	24.3	19.5	7.5
6	Wholesale trade	3 823	4.0	8.6	14.6	25.2	21.8	19.5	6.3
7	Retail trade	58 274	3.8	8.1	12.6	19.7	23.6	24.9	7.2
8	Finance, insurance, and real estate	11 123	3.8	6.2	12.3	25.7	26.3	16.5	9.3
9	Selected services	98 279	4.8	8.3	13.5	20.5	23.5	20.6	8.8
10	Industries not classified	24 983	5.0	6.8	12.3	19.1	22.9	23.2	10.7
11	Black-owned businesses	339 239	8.4	9.8	12.7	16.6	20.1	18.6	13.8
12	Agricultural services, forestry, fishing, and mining	5 105	12.8	14.5	11.9	16.3	14.6	15.2	14.8
13	Construction	23 061	10.7	11.6	16.6	20.5	15.2	13.3	12.1
14	Manufacturing	4 171	7.7	9.6	12.4	17.1	19.2	18.0	16.1
15	Transportation and public utilities	24 397	9.4	11.6	18.1	17.7	15.2	15.0	13.1
16	Wholesale trade	3 851	5.6	4.4	7.2	16.6	28.8	28.8	8.5
17	Retail trade	84 053	5.1	7.5	10.7	14.9	25.6	26.8	9.5
18	Finance, insurance, and real estate	14 829	6.2	6.8	11.6	19.4	19.5	19.7	14.6
19	Selected services	147 263	9.6	11.1	12.5	16.7	19.1	17.4	13.6
20	Industries not classified	32 709	9.5	7.8	13.2	14.2	17.8	18.6	18.9
21	Other minority-owned businesses	258 642	4.7	8.4	10.8	21.3	26.0	24.9	8.9
22	Agricultural services, forestry, fishing, and mining	11 993	22.3	12.9	13.2	15.5	16.3	12.0	7.7
23	Construction	12 351	4.7	5.3	12.1	19.3	25.1	26.0	7.6
24	Manufacturing	4 327	3.7	5.1	10.9	22.8	27.6	22.0	7.9
25	Transportation and public utilities	7 306	2.5	4.2	9.0	24.6	28.4	23.5	7.7
26	Wholesale trade	4 234	6.1	3.9	11.5	24.5	26.3	19.3	8.3
27	Retail trade	72 861	3.7	5.1	10.1	22.2	27.1	26.5	5.3
28	Finance, insurance, and real estate	15 295	4.3	8.0	14.2	21.7	27.4	18.0	8.5
29	Selected services	105 421	3.6	5.0	10.3	21.3	26.4	26.5	6.9
30	Industries not classified	21 853	5.1	5.7	11.7	19.9	23.0	25.1	9.5
31	Women-owned businesses	2 884 450	5.9	7.5	11.9	21.2	24.1	19.9	9.6
32	Agricultural services, forestry, fishing, and mining	44 097	9.1	9.3	9.9	20.6	27.1	14.6	9.5
33	Construction	61 665	5.6	9.6	15.2	23.3	23.3	12.4	10.4
34	Manufacturing	49 727	7.9	9.6	11.3	23.2	25.5	12.3	10.2
35	Transportation and public utilities	40 596	4.6	9.7	9.4	19.0	29.0	16.0	12.4
36	Wholesale trade	34 252	9.6	9.5	12.2	20.3	19.9	18.1	10.1
37	Retail trade	727 688	4.6	6.6	11.5	20.0	26.3	23.0	7.5
38	Finance, insurance, and real estate	263 734	4.6	7.7	13.5	26.7	21.6	11.7	13.8
39	Selected services	1 401 776	6.1	7.6	11.6	20.9	23.6	20.9	8.9
40	Industries not classified	260 915	7.0	6.6	11.7	19.9	20.5	20.6	13.7
41	Nonminority male-owned businesses	8 856 665	10.6	11.4	15.0	21.0	20.8	14.9	6.3
42	Agricultural services, forestry, fishing, and mining	264 443	11.6	7.2	14.6	20.1	27.6	10.4	8.4
43	Construction	943 162	10.7	11.0	16.6	23.2	17.9	13.6	8.6
44	Manufacturing	174 615	10.1	12.2	17.2	24.0	18.5	10.7	7.4
45	Transportation and public utilities	290 338	9.4	8.7	13.0	23.4	22.1	16.5	6.9
46	Wholesale trade	143 174	12.4	13.0	19.2	20.1	16.9	10.7	7.6
47	Retail trade	1 363 666	8.3	11.6	14.1	19.4	23.0	17.1	6.5
48	Finance, insurance, and real estate	497 143	11.1	14.3	17.2	22.7	17.4	11.7	5.6
49	Selected services	2 548 094	11.5	11.3	14.6	21.0	20.7	15.5	5.4
50	Industries not classified	631 830	11.5	11.3	12.8	18.1	21.5	16.4	8.3

[1]Data represent percentage of owners reporting in the designated categories.
[P]For explanation of relative standard errors, see Reliability of Estimates in the introductory text.

Method owner acquired the business[1]						Relative standard error of estimate[2] for column—													
Original founder	Purchased	Inherited	Acquired with no personal investment	Other	Not reported														
I	J	K	L	M	N	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
73.8	14.4	1.1	3.0	1.0	6.7	-	.1	.2	.2	.4	.4	.2	.3	.2	.2	.1	.2	.1	.3	1
81.2	8.1	.8	2.5	.4	7.1	1.0	1.0	1.5	2.0	2.5	2.4	1.6	1.4	1.6	.7	.3	.6	.3	1.2	2
69.1	3.1	.9	2.5	.3	4.1	1.0	.5	.5	.8	1.5	1.6	.7	.8	.7	.3	.3	.3	.1	.8	3
78.3	11.7	3.0	2.8	.6	6.6	1.0	.7	.8	1.8	1.2	1.5	.8	1.0	1.6	1.5	.9	.9	.2	.8	4
72.8	15.7	1.0	4.2	.4	6.0	1.0	.7	1.0	1.9	1.2	1.9	1.1	.9	1.8	1.2	.4	.4	.2	.7	5
75.7	14.0	.5	2.4	1.1	6.2	2.0	1.1	2.3	2.3	2.5	3.8	1.7	1.3	2.8	2.5	.3	.9	.7	1.9	6
82.2	26.5	1.3	3.0	1.3	5.6	1.0	.4	.3	.9	.7	1.4	1.3	.5	.9	.8	.1	.2	.3	.4	7
81.8	8.5	.7	2.8	.8	5.4	2.0	1.0	1.1	1.8	2.0	2.6	1.6	1.6	1.9	1.2	.3	.8	.2	.6	8
76.0	12.2	1.0	2.8	.9	7.1	.	.3	.4	.4	.5	.6	.5	.4	.7	.4	.2	.3	.1	.3	9
70.4	11.2	1.5	3.5	1.8	11.6	1.0	.4	.8	1.3	.8	.8	1.3	1.0	1.2	1.1	.3	.4	.3	.8	10
88.4	13.8	1.3	3.7	1.3	10.5	(X)	.2	.3	.1	.3	.4	.2	.3	.3	.2	.1	.2	.1	.4	11
72.3	8.2	3.6	1.4	1.3	13.2	[illegible]	1.9	3.5	2.0	3.0	1.8	2.6	1.8	2.7	.9	1.1	1.0	.7	1.6	12
82.1	4.3	1.8	3.2	.4	8.4	[illegible]	.9	1.0	1.0	1.0	1.0	1.1	1.1	1.3	.7	.4	.8	.2	.9	13
66.2	16.3	2.6	1.6	.6	12.7	[illegible]	1.5	1.8	1.6	2.1	2.7	3.1	1.8	4.2	3.6	1.0	.9	.5	1.5	14
66.1	16.5	1.4	4.4	1.0	10.6	[illegible]	.5	.7	1.2	1.2	1.2	1.7	1.1	1.4	.9	.6	.6	.4	1.3	15
54.9	26.8	1.8	6.0	1.9	8.6	[illegible]	1.9	1.4	2.8	2.6	2.8	2.5	1.9	3.1	3.4	.9	1.9	1.0	1.7	16
58.9	25.8	1.3	4.2	1.6	8.2	[illegible]	.4	.4	.3	.7	.9	.5	.7	.8	.8	.2	.3	.2	.7	17
77.9	6.5	.5	4.2	1.2	9.8	[illegible]	.6	1.2	1.8	1.8	1.4	1.5	1.8	1.4	1.0	.2	.8	.4	1.3	18
74.7	8.7	1.3	3.3	1.1	10.9	[illegible]	.2	.6	.1	.5	.6	.5	.4	.6	.3	.2	.2	.1	.5	19
63.2	13.5	1.3	3.7	2.1	16.3	[illegible]	.6	.6	.9	1.0	1.1	.8	1.3	1.3	.9	.3	.4	.5	1.2	20
68.8	20.0	1.3	3.0	1.0	5.8	-	.1	.2	.2	.4	.4	.2	.1	.5	.5	.1	.1	.1	.2	21
76.1	9.7	3.4	3.2	.5	7.2	1.0	1.2	1.3	1.2	1.1	1.1	1.0	.8	.8	.9	.7	.6	.3	.8	22
86.9	2.9	2.0	2.5	1.3	4.4	2.0	.9	.8	1.1	1.1	1.2	1.9	.8	1.7	.5	.6	.6	.5	.7	23
72.3	13.8	1.1	3.8	.4	8.6	1.0	.9	.9	1.0	1.4	2.1	2.0	.9	1.8	1.4	.4	.6	.1	1.3	24
64.6	22.3	.8	5.1	.4	6.7	2.0	.8	1.0	.9	1.1	2.1	1.7	1.6	1.7	2.4	.5	1.5	.2	1.7	25
74.0	13.6	3.5	2.5	.2	6.2	2.0	1.9	1.4	2.2	2.5	1.4	2.5	2.2	2.2	1.2	1.6	1.0	.1	1.8	26
56.6	32.4	1.7	3.3	1.2	4.8	1.0	.4	.6	.4	.7	1.0	.3	.3	1.2	1.2	.3	.2	.1	.4	27
61.3	9.1	.6	2.1	1.5	5.6	1.0	.6	1.0	1.8	1.0	1.7	.9	.7	1.4	.9	.3	.4	.3	.8	28
72.4	17.2	.8	2.9	1.0	5.7	.	.1	.2	.3	.5	.4	.6	.3	.7	.7	.1	.2	.1	.3	29
71.2	14.7	1.2	2.7	.9	9.3	1.0	.5	.6	1.2	1.1	1.7	1.3	.8	1.1	.6	.3	.6	.3	.9	30
72.7	13.3	1.8	4.3	1.0	7.0	(X)	.2	.2	.2	.5	.4	.2	.3	.2	.1	.1	.1	.1	.2	31
61.0	19.0	6.0	7.7	.7	5.6	[illegible]	2.0	1.5	1.5	1.8	3.2	2.0	1.4	1.2	1.4	1.9	1.7	.3	1.2	32
77.7	6.0	4.6	3.8	.5	7.3	[illegible]	1.4	1.5	2.4	2.1	3.1	1.3	1.2	2.0	1.4	1.0	.8	.2	1.1	33
68.7	12.3	3.4	6.5	.9	8.1	[illegible]	1.7	1.6	1.3	2.7	2.5	1.6	1.5	2.0	1.8	1.1	1.0	.3	1.7	34
67.9	10.4	3.1	7.0	1.3	10.3	[illegible]	1.4	1.9	1.9	2.3	3.5	1.6	2.2	3.2	2.4	.7	1.1	.5	1.8	35
59.9	11.4	5.7	10.2	1.9	10.9	[illegible]	2.4	1.3	2.5	3.0	1.3	4.1	2.9	3.8	2.3	1.7	2.1	1.0	3.5	36
82.4	24.7	2.1	4.1	1.2	5.5	[illegible]	.2	.4	.4	.9	.8	.6	.3	.4	.4	.2	.2	.2	.3	37
77.4	7.9	2.4	4.2	.5	7.6	[illegible]	.6	.8	1.0	1.1	1.3	.8	.8	1.1	.8	.5	.6	.1	.6	38
78.9	9.2	.9	3.8	.7	6.5	[illegible]	.2	.3	.3	.6	.6	.3	.5	.6	.4	1	.2	.1	.4	39
70.4	9.5	1.6	4.8	2.2	11.5	[illegible]	.8	.5	.9	.6	1.0	1.1	1.0	.9	.9	.2	.5	.4	1.0	40
74.3	16.3	1.8	3.0	.7	5.1	-	.3	.2	.3	.4	.3	.2	.2	.4	.3	.1	.1	.1	.3	41
69.3	17.8	1.7	3.9	.2	7.2	1.0	1.5	.8	1.4	1.0	2.0	1.6	1.4	2.8	1.7	.4	.8	1	1.3	42
84.7	6.1	2.0	2.9	.1	4.2	-	.6	.5	.5	1.2	.9	1.0	.5	1.1	.5	.4	.4	.1	.6	43
75.7	11.3	3.2	3.8	.1	5.9	1.0	.8	1.9	1.4	1.5	1.4	1.3	1.1	1.1	1.0	.6	.9	-	1.2	44
72.3	16.2	1.8	3.1	.5	6.1	-	1.5	.8	1.1	1.5	1.7	1.7	.7	1.8	1.5	.6	1.1	.4	1.2	45
64.6	19.6	3.4	4.9	.9	6.6	1.0	1.4	2.0	2.4	2.0	2.5	1.7	1.3	3.7	1.9	1.1	1.4	.5	1.1	46
80.6	28.1	1.8	3.1	1.0	5.4	.	.3	.9	.6	.8	.8	.6	.4	1.0	.6	.3	.5	.2	.4	47
75.8	13.6	2.2	3.6	.4	4.4	1.0	1.3	1.1	1.3	1.0	.9	1.0	.3	1.1	1.2	.3	.8	1	.3	48
78.9	12.4	1.1	2.4	.9	4.4	.	.4	.4	.4	.6	.4	.4	.2	.7	.5	.2	.3	.1	.2	49
74.1	13.1	1.5	3.4	.9	7.0	1.0	1.2	.5	.4	1.4	1.3	.8	.6	1.2	1.0	.3	.6	.3	.5	50

The Dun & Bradstreet Corporation

NEWS

For Broadcast On or After 6 p.m. Thursday Feb. 4; For Editions On or After Friday, Feb. 5.

Contacts: Reid H. Gearhart
(212) 593-6727
John M. Anderson
(212) 593-4163

U.S. BUSINESS FAILURES SHOW NO GROWTH IN 1987

FOR THE FIRST TIME IN EIGHT YEARS

D&B Economist Joseph W. Duncan Says 1987 Failure Data Reflect Fundamental Strength of U.S. Economy

NEW YORK, Feb. 5--After increasing for eight consecutive years, the number of U.S. business failures leveled off at 61,236 in 1987, according to The Dun & Bradstreet Corporation.

"The current pattern of business failures underscores the fundamental strength of the U.S. economy," said Joseph W. Duncan, corporate economist and chief statistician for The Dun & Bradstreet Corporation. "In 1987, failures were down or flat in seven of the nation's nine census regions, and only two industry sectors--agriculture and services--reported growth in business failures."

According to Dun & Bradstreet data, failures in 1987 totaled 61,236, down 0.6 percent from 61,601 in 1986. In contrast, failures increased in 1986 by 7.6 percent, and rose in 1985 by 9.9 percent.

-MORE-

Duncan noted that the gains in total U.S. failures in recent years have been centered in Texas, Oklahoma and Louisiana, because of the severe stress in the oil sector and its ripple effect on other industries in the region. Combined failures for the three states rose 158 percent to 12,371 in 1986 from 4,791 in 1984. In 1987, failures in Texas, Louisiana and Oklahoma totaled 12,319, essentially unchanged from the level in 1986.

While agriculture and services both reported gains in failures in 1987, the factors behind the increases were different. Agriculture failures rose 42.9 percent to 3,783 from 2,647 as a direct result of the introduction of Chapter 12 of the bankruptcy code in November 1986. Chapter 12 provides family farmers with an opportunity to reorganize their debt while protected from creditors. Prior to the introduction of Chapter 12, most farmers had no choice but to liquidate their assets in order to meet the demands of creditors.

"The availability of Chapter 12 produced a spike in agriculture failures in the first six months of 1987, as many farmers took advantage of the new legislation," said Duncan. "In the second half, however, agriculture failures were flat compared with the same period in 1986."

Several factors contributed to the increase in services failures, which rose 14.6 percent to 24,029 from 20,966.

"The current business expansion has been driven by a high level of entrepreneurial activity in the services sector, spurred primarily by demand from large firms for business

services," said Duncan. "With the expansion now more than five years old, we've seen evidence of increased competition in the services sector, particularly as many large companies have scaled back their spending in an effort to control costs and maintain growth."

Regional Trends in 1987 Business Failures

The Pacific states reported the largest decrease in failures, down 8.4 percent to 12,449 from 13,597. Substantial declines occurred in Washington, Oregon and Hawaii. In New England, which led the current economic recovery and has seen strong growth in recent years, failures were down 6.3 percent, though the decline in actual numbers was relatively small, to 1,039 from 1,109. Significant decreases were reported in Massachusetts and Connecticut. Failures in New Hampshire, however, rose from 56 to 135 largely because of the high levels of entrepreneurial activity in the state in recent years.

The East North Central states of the industrial Midwest showed a negligible decrease in failures, down 0.9 percent to 9,585 from 9,671. The pattern in the region was mixed, with decreases in Ohio and Wisconsin and gains in Indiana and Michigan. Failures in Illinois were unchanged from 1986. The overall level of economic strength in the region, however, has been building as manufacturers benefit from increased export activity resulting from the decline in the dollar.

"The industrial Midwest will be one of the bright spots in 1988 as exports play an increasingly important role in

contributing to total U.S. economic growth," said Duncan.

Despite the surge in agriculture failures in the spring, failures in the breadbasket states of the West North Central region showed no growth by the end of the year. Substantial farming-related gains in Nebraska, South Dakota and Iowa were offset by a sharp decrease in failures in Kansas.

Growth in business failures in 1987 was flat in both the West South Central and the Mountain states. Trends in failures in both regions reflect the fact that the impact from the stress in the energy sector has peaked. While failures in Texas were up 9.0 percent, Louisiana failures were unchanged and Oklahoma posted a sharp drop of nearly 26 percent. Trends in failures in the Mountain states are largely determined by patterns in Colorado-- by far the most populous state in the region--which posted an 11.7 percent decline last year.

The Middle Atlantic states recorded a slight increase in failures last year, up 1.8 percent. Along with the New England states, New York, New Jersey and Pennsylvania have experienced robust economic growth in recent years. Failures dropped 14.9 percent in New Jersey and were essentially unchanged in Pennsylvania. New York recorded a 14.5 percent increase in business bankruptcies, but the gain was primarily the result of strong entrepreneurial activity in recent years rather than economic weakness.

Failures in the South Atlantic states posted the largest increase among all the regions in 1987, up 11.4 percent.

-MORE-

Failures in Florida--the largest state in the region--were down 3.4 percent, reflecting the fact that the increase in failures in the region was almost entirely related to a dramatic gain of 100 percent in Georgia.

"The increase in failures in Georgia is essentially an echo to the entrepreneurial boom that occurred in and around Atlanta earlier in this economic expansion," said Duncan. "Though the numbers are startling, it's important to recognize that they reflect risk-taking rather than a collapse in the local economy, which remains relatively strong."

Failures in the East South Central states rose 6.1 percent, but the gain represented a relatively small numerical increase to 3,199 from 3,016.

Industry Trends

While failures rose in the agriculture and services sectors, significant decreases occurred in all other industries. The largest decrease was reported in the mining sector, which includes oil and gas extraction, down 32.6 percent. The decline primarily reflects the fact that many of the weak or marginal companies already have folded, rather than reduced stress in the industry.

The decreases in failures in manufacturing, transportation, wholesaling, retailing and finance, insurance and real estate all ranged from about 10 percent to 13 percent, reflecting the overall economic stability in most industries. Construction failures declined 5.4 percent in 1987.

-MORE-

Dun & Bradstreet's business failure statistics include businesses that ceased operations following assignment or bankruptcy; ceased operations with losses to creditors after such actions as foreclosure or attachment; voluntarily withdrew leaving unpaid obligations; were involved in court actions such as receivership, reorganization or arrangement; or voluntarily compromised with creditors.

The Dun & Bradstreet Corporation is the world's largest marketer of business information and related services with revenue of $3.4 billion in 1987.

(See attached tables.)

THE DUN & BRADSTREET CORPORATION - Economic Analysis Department

Business Failures By Industry Sector
December 1986 vs. December 1987 *

Industry	1986	1987	% Change
Agriculture, forestry, fishing	247	209	-15.4%
Mining	69	42	-39.1%
Construction	571	438	-23.3%
Manufacturing	385	278	-27.8%
Transportation & public utilities	190	169	-11.1%
Wholesale trade	360	296	-17.8%
Retail trade	938	913	-2.7%
Finance, insurance & real estate	237	177	-25.3%
Services	1,857	1,875	1.0%
Unclassifiable establishments	61	44	
Total	4,915	4,441	-9.6%

Business Failures by Industry Sector
Total twelve months 1986 vs. total twelve months 1987 *

Industry	1986	1987	% Change
Agriculture, forestry and fishing	2,647	3,783	42.9%
Mining	923	622	-32.6%
Construction	7,110	6,724	-5.4%
Manufacturing	4,776	4,317	-9.6%
Transportation & public utilities	2,565	2,240	-12.7%
Wholesale trade	4,865	4,304	-11.5%
Retail trade	13,623	12,185	-10.6%
Finance, insurance & real estate	2,778	2,492	-10.3%
Services	20,966	24,029	14.6%
Unclassifiable establishments	1,348	540	
Total	61,601	61,236	-0.6%

*Data for 1986 are final; 1987 figures are preliminary.

Source: The Dun & Bradstreet Corporation
Economic Analysis Department

THE DUN & BRADSTREET CORPORATION - Economic Analysis Department
Business Failures by States and Regions
December 1986 vs. December 1987 *
Total twelve months 1986 vs. total twelve months 1987 *

	DECEMBER			YEAR TO DATE		
	1986	1987	% Change	1986	1987	% Change
NEW ENGLAND	77	60	-22.1%	1,109	1,039	-6.3%
Maine	4	2	-50.0%	59	59	0.0%
New Hampshire	9	5	-44.4%	56	135	141.1%
Vermont	3	2	-33.3%	29	48	65.5%
Massachusetts	48	41	-14.6%	725	653	-9.9%
Connecticut	12	6	-50.0%	202	110	-45.5%
Rhode Island	1	4	300.0%	38	34	-10.5%
MIDDLE ATLANTIC	341	324	-5.0%	3,998	4,070	1.8%
New York	149	156	4.7%	1,514	1,733	14.5%
New Jersey	95	63	-33.7%	912	776	-14.9%
Pennsylvania	97	105	8.2%	1,572	1,561	-0.7%
EAST NORTH CENTRAL	790	726	-8.1%	9,671	9,585	-0.9%
Ohio	167	152	-9.0%	2,082	1,927	-7.4%
Indiana	187	97	-48.1%	1,094	1,301	18.9%
Illinois	244	250	2.5%	3,308	3,308	0.0%
Michigan	111	140	26.1%	1,620	1,810	11.7%
Wisconsin	81	87	7.4%	1,567	1,239	-20.9%
WEST NORTH CENTRAL	412	328	-20.4%	5,252	5,244	-0.2%
Minnesota	69	42	-39.1%	639	690	8.0%
Iowa	64	54	-15.6%	672	915	36.2%
Missouri	98	80	-18.4%	1,632	1,573	-3.6%
North Dakota	20	21	5.0%	101	111	9.9%
South Dakota	20	22	10.0%	151	278	84.1%
Nebraska	28	49	75.0%	368	684	85.9%
Kansas	113	60	-46.9%	1,689	993	-41.2%
SOUTH ATLANTIC	477	447	-6.3%	6,288	7,005	11.4%
Maryland	38	47	23.7%	462	490	6.1%
Delaware	1	7	600.0%	46	30	-34.8%
District of Columbia	7	2	-71.4%	65	62	-4.6%
Virginia	42	70	66.7%	693	875	26.3%
West Virginia	10	12	20.0%	228	234	2.6%
North Carolina	33	47	42.4%	582	584	0.3%
South Carolina	14	9	-35.7%	264	279	5.7%
Georgia	96	49	-49.0%	617	1,234	100.0%
Florida	236	204	-13.6%	3,331	3,217	-3.4%

	DECEMBER			YEAR TO DATE		
	1986	1987	% Change	1986	1987	% Change
EAST SOUTH CENTRAL	217	262	20.7%	3,016	3,199	6.1%
Kentucky	83	74	-10.8%	958	965	0.7%
Tennessee	70	107	52.9%	1,181	1,148	-2.8%
Alabama	31	46	48.4%	376	495	31.6%
Mississippi	33	35	6.1%	501	591	18.0%
WEST SOUTH CENTRAL	1,102	830	-24.7%	12,748	12,759	0.1%
Arkansas	38	23	-39.5%	377	440	16.7%
Oklahoma	216	53	-75.5%	2,869	2,135	-25.6%
Louisiana	115	147	27.8%	1,826	1,817	-0.5%
Texas	733	607	-17.2%	7,676	8,367	9.0%
MOUNTAIN	461	478	3.7%	5,922	5,886	-0.6%
Montana	22	23	4.5%	184	324	76.1%
Idaho	35	31	-11.4%	314	451	43.6%
Wyoming	28	17	-39.3%	282	279	-1.1%
Colorado	237	245	3.4%	3,274	2,890	-11.7%
New Mexico	9	24	166.7%	271	227	-16.2%
Arizona	54	69	27.8%	668	821	22.9%
Utah	46	45	-2.2%	566	611	8.0%
Nevada	30	24	-20.0%	363	283	-22.0%
PACIFIC	1,038	986	-5.0%	13,597	12,449	-8.4%
Alaska	44	17	-61.4%	288	305	5.9%
Hawaii	8	24	200.0%	283	171	-39.6%
Washington	136	98	-27.9%	1,784	1,292	-27.6%
Oregon	56	39	-30.4%	1,001	712	-28.9%
California	794	808	1.8%	10,241	9,969	-2.7%
TOTAL	4,915	4,441	-9.6%	61,601	61,236	-0.6%

* Data for 1986 are final; 1987 figures are preliminary.

Source: The Dun & Bradstreet Corporation
Economic Analysis Department

2945 Bent Creek Lane
Kennesaw, GA. 30144
(404) 426-1944
September 5, 1989

Small Business Administration
Surety Bond Claims Office
4040 North Fairfax Dr.
Room 500
Arlington, VA. 22203

Dear Barbara Racine, Claims Manager:

I am a engineering graduate student at Georgia Institute of Technology and am presently working on my master's research paper. My principal area of study at Georgia Tech is Civil Engineering/ Construction Management. For my paper I have chosen to study reasons for failures of small construction firms that are not within the control of the firm's managers. My attempts at finding data on this topic so far have uncovered very little. Through local Small Business Administration officials I was informed of possible assistance through your organization and am excited at the prospect of your assistance. I have already requested and received information from the SBA data bank of the Office of Economic Research, but it was not very helpful. I have seen an SBA instruction which lists codes for various types of failures. Percentages of failure for each of your failure codes would be very helpful especially if I could have it by year for the last 10 or 20 years. Thus, I am sending this letter in request for your assistance.
I general, I am looking for any information on start-ups, survival rates, reasons for failures, etc of small construction contractors throughout the US. Some specific information I am looking for is as listed below;

Construction firm starts/failures over the past <u>20 years</u> by:

-type (ie. electrical, mechanical, & general contractors others if possible)
-numbers (ie. totals of each of the above types and geographical location)
-owner (age, sex and race, again related to each of the above contractor types)
-dates (dates associated with the contractor starts and failures above)
-financial (any financial information related to the above contractor's financial stability and profitability such as annual revenues, earnings, total assets etc.)
-labor (any labor force statistics related strictly to small

construction firms such as wages, race, sex, age, turn-over rates of construction workers, etc.)

**** -reasons for failures (This is the major concern of my research. I need to know to what extent each reason contributes to construction firm failures. I will truly appreciate your perseverance in providing this information.)

If there is any action on my part that could help you or speed up things such as answering questions about my request, or if you have suggestions that might aid my research please feel free to call me at (404) 426-1944 collect. As with everything, I have deadlines to meet and thus request any information you may be able to provide as soon as possible.

Again, I am very appreciative of your help and encourage you to phone me if necessary.

Sincerely,

Thomas J. Foust

There was no reply from the SBA Claims Office.

2945 Bent Creek Lane
Kennesaw, GA. 30144
(404) 426-1944
September 5, 1989

Surety Association of America
100 Wood Ave South
Iselin, N.J. 08830

Dear Mr. Provost:

I am a engineering graduate student at Georgia Institute of Technology and am presently working on my master's research paper. My principal area of study at Georgia Tech is Civil Engineering/ Construction Management. For my paper I have chosen to research reasons for failures of small construction firms that are not within the control of the firm's managers. My attempts at finding data on this topic so far have uncovered very little. Through local Small Business Administration officials and surety companies I was informed of possible assistance through your organization and am excited at the prospect of your assistance. Thus, I am writing this letter to request your assistance.
I am looking for any statistical or other information involving start-ups, survival rates and failures of small construction contractors throughout the US. Some specific information I am looking for is as listed below;

Construction firm starts/failures over the past 20 years by:

-type (ie. electrical, mechanical, & general contractors others if possible)
-numbers (ie. totals of each of the above types and geographical location)
-owner (age, sex and race, again related to each of the above contractor types)
-dates (dates associated with the contractor starts and failures above)
-financial (any financial information related to the above contractor's financial stability and profitability such as annual revenues, earnings, total assets etc.)
-labor (any labor force statistics related strictly to small construction firms such as wages, race, sex, age, turn-over rates of construction workers etc.)
**** -reasons for failures (This is the major concern of my research. I am looking primarily for reasons not within the control of the construction firm such as sky rocketing interest rates or employee embezzlement. In addition to the reasons I need to know to what extent each reason contributes to

construction firm failures. I will truly appreciate your perseverance in providing this information.)

If there is any action on my part that could help you or speed up things such as answering questions about my request, or if you have suggestions that might aid my research please feel free to call me at (404) 426-1944 collect. As with everything, I have deadlines to meet and thus request any information you may be able to provide as soon as possible.
Again, I am very appreciative of your help and encourage you to phone me if necessary.

Sincerely,

Thomas J. Foust

The Surety Association of America sent several brochures on bonding as well as a study on contractor failure as related to the surety industry entitled "Losses In Private Sector Construction Due To Contractor Failure". The study was sponsored by The Surety Association of America and The National Association of Surety Bond Producers. It was conducted by Ardrey Inc. and completed in March 1988. Also sent was an excerpt from a publication called The Contractor which follows. The study and brochures were too thick to include in this study and were given to the Georgia Tech Price Gilbert Memorial Library for future reference. No letter accompanied the information but a lengthy phone interview is provided in Appendix A.

...package consists of a series of insurance policies that would spread the risk of construction and reduce liability l...tion among construction participants. These policies would address three areas of concern:

(1) the exposure of the construction team to claims of bodily injury or property damage to non-team members,

(2) claims of physical damage and financial loss of the construction participants; and

(3) claims for damage after completion of the project.

...each area (i.e., design, construction, products) to the overall project.

Under the policy concept, the deductibles would apply to each party, individually, who would be involved in effecting repairs. In other words, in the case of any property loss where repairs to the project were required to be made by a subcontractor, that subcontractor would be responsible for the costs up to the applicable deductible. That deductible would be two percent of the total value of the construction.

Thus, explained Kinser, "Only if the cost of repairs by any particular subcontractor exceeded two percent of the total

Small firms have most profit

Smaller construction firms are outperforming larger construction firms, according to the Contractor Profit News (CPN) financial statistics survey.

"While small firms reported a median operating profit of 5.6 percent, this steadily declined to where firms over $50 million in revenue reported a median operating profit of only .5 percent," says CPN Publisher Frank A. Stasiowski. This result confirms the current viewpoint that there are too many large firms chasing too few large projects. This leads to firms taking projects at little or no profit, according to Stasiowski.

This independent survey of construction firms found that general contractors collect their payments 20 days faster than subcontractor firms.

The profit results are better for firms in the Northeast region, in merit (open shop) firms, and firms doing primarily government work. The findings on government versus private sector firms results is a surprise, says CPN Director of Research William Fanning.

In other findings, government sector firms spend more on direct project labor—a portion of project costs—than do private sector firms. This same higher direct labor cost also was present in the comparison of union and open shop firms, with union firms having a much greater level of expense for direct project labor.

"This higher labor cost was certainly not unexpected; however, the analysis did produce one surprise in that it failed to support union claims that higher wages are justified by higher productivity.

The survey measured productivity on the basis of revenues per employee, which can be a productivity measure, as it measures the average value of work produced by each worker. This showed only a statistically insignificant three percent difference in favor of union firms, with the respective median revenues per employee being $62,000 (union) and $60,000 (open shop).

The complete survey, containing data on 183 firms, is available from Contractor Profit News, Ten Midland Ave., Newton, MA 02158. The cost of the full survey report is $95 prepaid.

year of 1975. The current dollar ... new construction was about $340 billion.

"The value of residential construction was about the same as in 1984, although the pace of homebuilding accelerated during 1985," according to the department's bimonthly Construction Review. "Private nonresidential construction exceeded the record level set in 1984 by 10 percent, largely on the strength of the commercial building boom. Public works construction increased by about nine percent, with gains in most types of public works.

The Commerce Department found that the value of new construction put in place last year was equal to about 8.9 percent of GNP. Construction costs increased less than three percent between the summer of 1984 and the summer of 1985, as measured by the Census Bureau's composite construction cost index. "This represents the fourth consecutive year of moderate construction cost increases," according to the Construction Review.

Average hourly earnings of construction workers increased by about 1.5 percent in 1985, while the producer price index for construction materials increased by two percent. Construction industry employment rose eight percent in 1985 to set an all-time record of 4.7 million employees. In addition, more than one million people were self-employed as proprietors and working partners.

"Despite the recent moderation in construction wage increases, construction remained one of the highest paying industries as measured by average hourly earnings

Arizona subs want contractor licensing law

The American Subcontractors Association of Arizona has formed a coalition along with 17 other state construction organizations to introduce parallel legislation into both the Arizona House and the Senate on licensing of commercial work.

This action is in response to unfair competition imposed by companies who are not properly licensed by the state of Arizona.

These employers do not provide workers compensation, unemployment insurance, or any other employee benefits which usually run 25 to 35 percent of all labor costs. As a result, contractors who provide benefits to their employees are forced to pay more of their profits for labor expenses, and are clearly at a disadvantage when pricing jobs.

If the bill requiring the licensing of commercial work passes, it will require all employers to apply for the proper licensing within the appropriate state agencies. This will guarantee that all contractors apply for the necessary licenses, as well as pay the proper insurance for their employees.

3/1986 The Subcontractor 71-3A

2945 Bent Creek Lane
Kennesaw, GA. 30144
(404) 426-1944
September 5, 1989

The American Surety Association
1029 Vermont Ave NW
Suite 800
Washington DC 20005

To whom it may concern:

I am a engineering graduate student at Georgia Institute of Technology and am presently working on my master's research paper. My principal area of study at Georgia Tech is Civil Engineering/ Construction Management. For my paper I have chosen to research reasons for failures of small construction firms that are not within the control of the firm's managers. My attempts at finding data on this topic so far have uncovered very little. Through local Small Business Administration officials and surety companies I was informed of possible assistance through your organization and am excited at the prospect of your assistance. Thus, I am writing this letter to request your assistance.
I am looking for any statistical or other information involving start-ups, survival rates and failures of small construction contractors throughout the US. Some specific information I am looking for is as listed below;

Construction firm starts/failures over the past 20 years by:

- -type (ie. electrical, mechanical, & general contractors others if possible)
- -numbers (ie. totals of each of the above types and geographical location)
- -owner (age, sex and race, again related to each of the above contractor types)
- -dates (dates associated with the contractor starts and failures above)
- -financial (any financial information related to the above contractor's financial stability and profitability such as annual revenues, earnings, total assets etc.)
- -labor (any labor force statistics related strictly to small construction firms such as wages, race, sex, age, turn-over rates of construction workers etc.)
- **** -reasons for failures (This is the major concern of my research. I am looking primarily for reasons not within the control of the construction firm such as sky rocketing interest rates or employee embezzlement. In addition to the reasons I need to

know to what extent each reason contributes to construction firm failures over a period of time. I will truly appreciate your perseverance in providing this information.)

If there is any action on my part that could help you or speed up things such as answering questions about my request, or if you have suggestions that might aid my research please feel free to call me at (404) 426-1944 collect. As with everything, I have deadlines to meet and thus request any information you may be able to provide as soon as possible.
Again, I am very appreciative of your help and encourage you to phone me if necessary.

Sincerely,

Thomas J. Foust

The American Surety Association reply was by phone. See interview with Ruth Bernstien in Appendix A.

2945 Bent Creek Lane
Kennesaw, GA. 30144
(404) 426-1944
September 5, 1989

National Association of Surety Bond Producers
6931 Arlington Road
Suite 308
Bethesda, Maryland 20814

To whom it may concern:

I am a engineering graduate student at Georgia Institute of Technology and am presently working on my master's research paper. My principal area of study at Georgia Tech is Civil Engineering/ Construction Management. For my paper I have chosen to study reasons for failures of small construction firms that are not within the control of the firm's managers. My attempts at finding data on this topic so far have uncovered very little. Through local Small Business Administration officials and surety companies I was informed of possible assistance through your organization and am excited at the prospect of your assistance. Thus I am writing this letter in request for your assistance.
I am looking for any information on start-ups, survival rates, reasons for failures, etc of small construction contractors throughout the US. Some specific information I am looking for is as listed below;

Construction firm starts/failures over the past <u>20 years</u> by:

-type (ie. electrical, mechanical, & general contractors others if possible)
-numbers (ie. totals of each of the above types and geographical location)
-owner (age, sex and race, again related to each of the above contractor types)
-dates (dates associated with the contractor starts and failures above)
-financial (any financial information related to the above contractor's financial stability and profitability such as annual revenues, earnings, total assets etc.)
-labor (any labor force statistics related strictly to small construction firms such as wages, race, sex, age, turn-over rates of construction workers, etc.)
**** -reasons for failures (This is the major concern of my research. I am looking primarily for reasons not within the control of the construction firm such as sky rocketing interest rates or employee embezzlement. In addition to the reasons I need to

know to what extent each reason contributes to construction firm failures. I will truly appreciate your perseverance in providing this information.)

If there is any action on my part that could help you or speed up things such as answering questions about my request, or if you have suggestions that might aid my research please feel free to call me at (404) 426-1944 collect. As with everything, I have deadlines to meet and thus request any information you may be able to provide as soon as possible.
Again, I am very appreciative of your help and encourage you to phone me if necessary.

Sincerely,

Thomas J. Foust

Response from National Association of Surety Bond Producers was by phone. See interview with Mr. Mark Huber in Appendix A.

2945 Bent Creek Lane
Kennesaw, GA. 30144
(404) 426-1944
September 5, 1989

American Subcontractors Association
1004 Duke Street
Alexandria, VA 22314-3512

To whom it may concern:

I am a engineering graduate student at Georgia Institute of Technology and am presently working on my master's research paper. My principal area of study at Georgia Tech is Civil Engineering/ Construction Management. For my paper I have chosen to research reasons for failures of small construction firms that are not within the control of the firm's managers. My attempts at finding data on this topic so far have uncovered very little. Through local Small Business Administration officials and surety companies I was informed of possible assistance through your organization and am excited at the prospect of your assistance. Thus, I am writing this letter to request your assistance.
I am looking for any statistical or other information involving start-ups, survival rates and failures of small construction contractors throughout the US. Some specific information I am looking for is as listed below;

Construction firm starts/failures over the past 20 years by:

- -type (ie. electrical, mechanical, & general contractors others if possible)
- -numbers (ie. totals of each of the above types and geographical location)
- -owner (age, sex and race, again related to each of the above contractor types)
- -dates (dates associated with the contractor starts and failures above)
- -financial (any financial information related to the above contractor's financial stability and profitability such as annual revenues, earnings, total assets etc.)
- -labor (any labor force statistics related strictly to small construction firms such as wages, race, sex, age, turn-over rates of construction workers etc.)

**** -reasons for failures (This is the major concern of my research. I am looking primarily for reasons not within the control of the construction firm such as sky rocketing interest rates or employee embezzlement. In addition to the reasons I need to know to what extent each reason contributes to

construction firm failures. I will truly appreciate your perseverance in providing this information.

If there is any action on my part that could help you or speed up things such as answering questions about my request, or if you have suggestions that might aid my research please feel free to call me at (404) 426-1944 collect. As with everything, I have deadlines to meet and thus request any information you may be able to provide as soon as possible.
Again, I am very appreciative of your help and encourage you to phone me if necessary.

Sincerely,

Thomas J. Foust

No reply from the American Subcontractor Association to date.

APPENDIX C

TABULATED DATA

This appendix contains data compiled during this study for development of graphs and evaluating construction industry trends. The data is presented here in tabulated form to provide a more detailed look at values plotted on the graphs, aid in the explanation of findings, and for use in additional research.

Table C-1
CONSTRUCTION INDUSTRY PERCENTAGE OF GNP

YEAR	TOTAL GNP	CONST. GNP	PERCENT GNP CONST.
1948	261.60	11.50	4.40
1949	260.40	11.50	4.42
1950	288.30	13.20	4.58
1951	333.40	15.60	4.68
1952	351.60	16.90	4.81
1953	371.60	17.50	4.71
1954	372.50	17.70	4.75
1955	405.90	19.10	4.71
1956	428.20	21.30	4.97
1957	451.00	22.20	4.92
1958	456.80	21.80	4.77
1959	495.80	23.70	4.78
1960	515.30	24.30	4.72
1961	533.80	25.30	4.74
1962	574.60	27.10	4.72
1963	606.90	28.90	4.76
1964	649.80	31.60	4.86
1965	705.10	34.70	4.92
1966	772.00	37.90	4.91
1967	816.40	39.70	4.86
1968	892.70	43.50	4.87
1969	963.90	48.70	5.05
1970	1015.50	51.40	5.06
1971	1102.70	56.50	5.12
1972	1212.80	63.00	5.19
1973	1359.30	70.40	5.18
1974	1472.80	74.50	5.06
1975	1598.40	76.50	4.79
1976	1782.80	86.20	4.84
1977	1990.50	97.90	4.92
1978	2249.70	115.60	5.14
1979	2508.20	131.40	5.24
1980	2732.00	137.70	5.04
1981	3052.60	138.40	4.53
1982	3166.00	140.90	4.45
1983	3405.70	149.60	4.39
1984	3772.20	171.50	4.55
1985	4014.90	186.60	4.65
1986	4240.30	204.00	4.81
1987	4526.70	218.50	4.83
		AVERAGE FOR 30 YEARS =	4.79

Source: All data for Table C-1 is from the National Income and Product Accounts Tables, 1987, available on computer from the Ga Tech Price Gilbert Library.

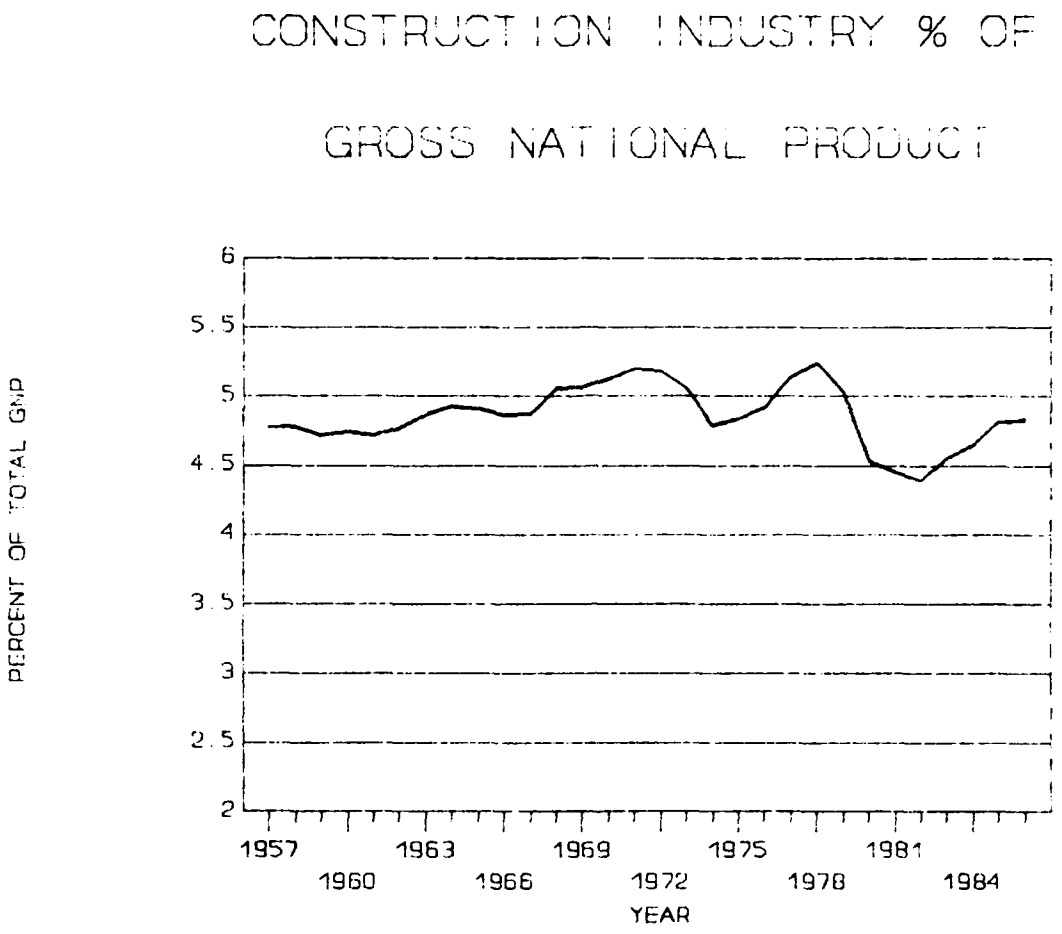


Figure C-1
Source: See Table C-1

Table C-2

CONSTRUCTION FIRM FAILURES

YEAR	UNDERLYING CAUSES: MANAGEMENT CAUSES	NEGLECT	FRAUD	DISASTER	REASONS UNKNOWN	TOTAL
1960	90.5	3.2	1.2	0.4	4.7	100.0
1961	90.3	3.2	1.2	0.3	5.0	100.0
1962						
1963						
1964						
1965	91.9	3.8	1.7	0.5	2.1	100.0
1966	94.2	3.0	1.3	0.4	1.1	100.0
1967						
1968	90.8	2.9	0.7	0.7	4.9	100.0
1969	88.7	3.2	0.9	0.3	6.9	100.0
1970						
1971						
1972	94.2	2.5	1.1	0.0	2.2	100.0
1973						
1974	92.6	2.4	0.7	0.5	3.8	100.0
1975	91.9	1.0	0.3	1.1	5.7	100.0
1976	92.1	1.0	0.3	0.9	5.7	100.0
1977						
1978	92.1	0.9	0.3	0.4	6.3	100.0
1979	93.6	0.9	0.4	0.1	5.0	100.0
AVERAGE	91.9	2.3	0.8	0.5	4.5	
BELOW VALUES FROM NEW FORMAT OF D & B FAILURE RECORD:						
1980						
1981						
1982						
1983						
1984	74.2	4.0	0.5	0.7	20.6	100.0
1985	79.6	2.7	0.5	0.6	16.6	100.0
1986	81.7	1.8	0.4	0.5	15.6	100.0
1987	80.6	1.9	0.2	0.4	16.9	100.0
AVERAGE	79.0	2.6	0.5	0.4	17.5	

SOURCE: The Dun & Bradstreet Corp., **Business Failure Record**, various years through 1988.

Table C-3

CONTRACTOR TYPES BY PERCENTAGE

	1967	1972	1977	1982	AVERAGE
SMALL GENERAL CONTRACTORS	34.55	36.17	38.12	32.52	35.34
SMALL SPECIALTY CONTRACTORS	58.96	60.90	59.49	64.19	60.89
OTHER SMALL CONTRACTORS	3.94	0.73	1.12	1.28	1.77
TOTAL SMALL CONTRACTORS	97.45	97.80	98.73	97.99	97.99
LARGE CONTRACTORS	2.55	2.19	1.27	1.29	1.82
TOTAL CONTRACTORS	100	100	100	99	

NOTE: From U.S. Census data using size standards as $25 and $9.5 million which roughly corresponds to SIC standards. Totals do not equal 100% due to Census data rounding.

Table C-4

CONSTRUCTION FIRM FAILURES

	GENERAL CONTR.		SUB-CONTR.		OTHER CONTR.		TOTAL CONTR.	
YEARS	NUMBER	LIABILITY	NUMBER	LIABILITY	NUMBER	LIABILITY	NUMBER	LIABILITY
1954	456	29757	793	23707	56	3365	1305	56829
1955	443	39872	880	34485	81	8867	1404	83179
1956	708	54115	1030	41400	96	5288	1834	100803
1957	805	64425	1175	36466	125	9421	2105	110312
1958	872	62758	1169	41006	121	11351	2162	115115
1959	749	66075	1159	42492	156	13316	2064	121883
1960	1020	110656	1419	74177	168	16536	2607	201369
1961	1068	94042	1520	76685	164	22278	2752	193005
1962	1003	133901	1498	81370	202	28264	2703	243535
1963	888	140630	1357	66680	156	24044	2401	231354
1964	970	171645	1275	74762	143	15985	2388	262392
1965	1030	196633	1329	78049	154	16298	2513	290980
1966	1049	229737	1326	80351	135	16288	2510	326376
1967	867	238854	1243	71380	151	13446	2261	323680
1968	656	135341	903	58207	111	18911	1670	212459
1969	626	95125	860	58910	104	17682	1590	171717
1970	659	122713	905	82818	123	26002	1687	231533
1971	533	123079	897	81441	115	17837	1545	222357
1972	513	91914	777	85900	85	15716	1375	193530
1973	534	182627	805	106494	80	19954	1419	309075
1974	714	367643	1023	126126	103	32829	1840	526598
1975	942	461987	1202	142039	118	36819	2262	640845
1976	716	261613	940	137049	114	30075	1770	428787
1977	608	168927	764	209126	91	42168	1463	420220
1978	508	145643	631	140359	65	42376	1204	328378
1979	631	147287	687	102511	60	41525	1378	291323
1980	1071	334908	1164	333333	120	83868	2355	752109
1981	1472	450968	1931	333315	211	67497	3614	851780
1982	1877	616286	2642	599700	353	158333	4872	1374319
1983	1830	588773	3004	716532	413	243249	5247	1548554
1984	2474	771337	483	255228	3979	624901	6935	1651465
1985	2759	1255490	419	113500	3827	634133	7005	2003123
1986	2634	949259	449	134865	4026	698501	7109	1782625
1987	2505	1459305	398	142998	3832	785581	6735	2387884
*1988	2548	789358	350	154483	3893	899188	6791	1843029

** 1988 data is preliminary.
SOURCE: Dun & Bradstreet Corp., **Business Failure Record**, through 1988.

Table C-5

CONSTRUCTION INDUSTRY HEALTH

YEARS	NUMBER CONSTRUCTION FAILURES	TOTAL BUSINESS FAILURES	CONSTRUCTION AS A PERCENT OF TOTAL
1954	1305	11086	11.77
1955	1404	10969	12.80
1956	1834	12686	14.46
1957	2105	13739	15.32
1958	2162	14964	14.45
1959	2064	14053	14.69
1960	2607	15445	16.88
1961	2752	17075	16.12
1962	2703	15782	17.13
1963	2401	14374	16.70
1964	2388	13501	17.69
1965	2513	13514	18.60
1966	2510	13061	19.22
1967	2261	12364	18.29
1968	1670	9636	17.33
1969	1590	9154	17.37
1970	1687	10748	15.70
1971	1545	10326	14.96
1972	1375	9566	14.37
1973	1419	9345	15.18
1974	1840	9915	18.56
1975	2262	11432	19.79
1976	1770	9628	18.38
1977	1463	7919	18.47
1978	1204	6619	18.19
1979	1378	7564	18.22
1980	2355	11742	20.06
1981	3614	16794	21.52
1982	4872	24908	19.56
1983	5247	31334	16.75
1984	6935	52078	13.32
1985	7005	57253	12.24
1986	7109	61616	11.54
1987	6735	61111	11.02
*1988	6791	57098	11.89

** 1988 data is preliminary.
SOURCE: Dun & Bradstreet Corp., **Business Failure Record**, through 1988.

Table C-6

GENERAL ECONOMIC DATA

YEAR	PRIME INTEREST RATE	CONSUMER PRICE INDEX	NEW HOME 30 YEAR CONVENTIONAL MORTGAGE APR	NEW HOME ALL TYPE CONVENTIONAL MORTGAGE APR
1954				
1955				
1956				
1957		34.50		
1958	3.83	35.20		
1959	4.48	35.60		
1960	4.82	36.20	6.21	
1961	4.50	36.40	5.99	
1962	4.50	36.90	5.93	
1963	4.50	37.40	5.82	5.80
1964	4.50	37.90	5.80	5.75
1965	4.54	38.50	5.81	5.74
1966	5.63	39.60	6.35	6.14
1967	5.63	41.00	6.53	6.33
1968	6.31	43.00	7.06	6.83
1969	7.95	45.50	7.91	7.65
1970	7.91	48.10	8.52	8.27
1971	5.72	49.70	7.80	7.59
1972	5.25	51.40	7.64	7.45
1973	8.02	55.80	8.22	8.78
1974	10.80	62.50	9.16	8.71
1975	7.86	67.10	9.12	8.75
1976	6.84	70.40	9.01	8.76
1977	6.82	75.10	8.94	8.80
1978	9.06	80.20	9.58	9.30
1979	12.67	92.20	10.97	10.48
1980	15.27	103.80	13.73	12.25
1981	18.87	113.70	16.36	14.17
1982	14.86	118.90	16.23	14.47
1983	10.79	122.80	13.44	12.20
1984	12.04	127.80	13.88	11.87
1985	9.93	132.30	12.42	11.12
1986	8.33	134.00	10.18	9.82
1987	8.20	140.00		8.97
1988	9.32			

SOURCE: Wharton Econometrics Forecasting Associates Group,
Tables from 3rd floor Georgia Tech Price Gilbert Library.

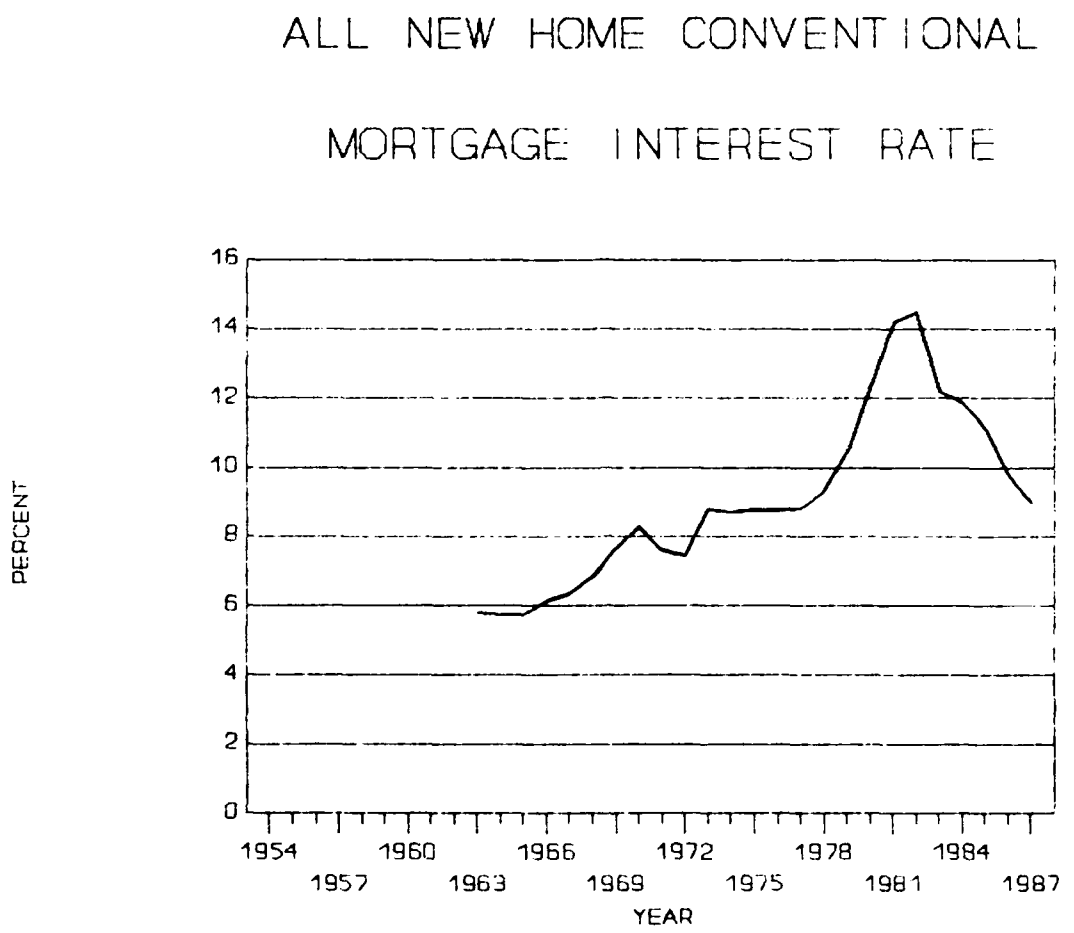


Figure C-6.1
Source: See Table C-6.

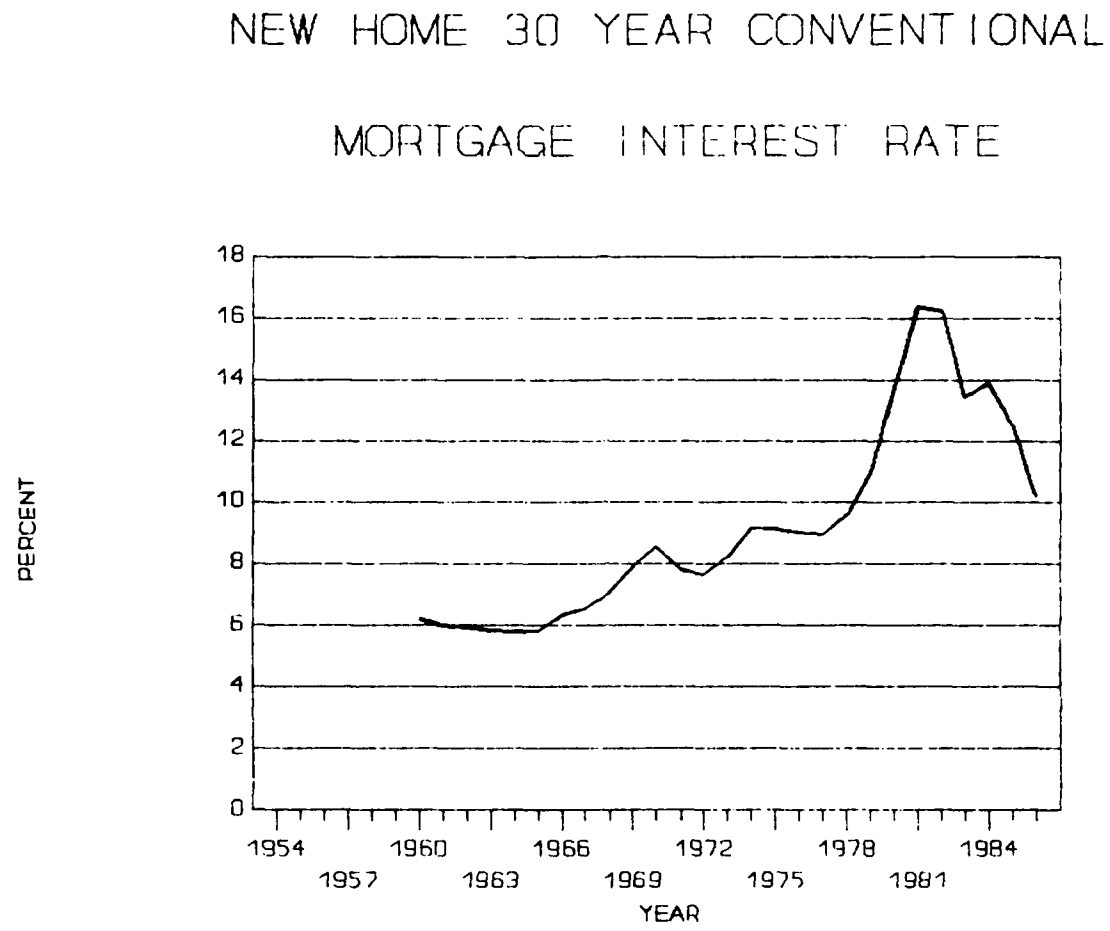


Figure C-6.2
Source: See Table C-6.

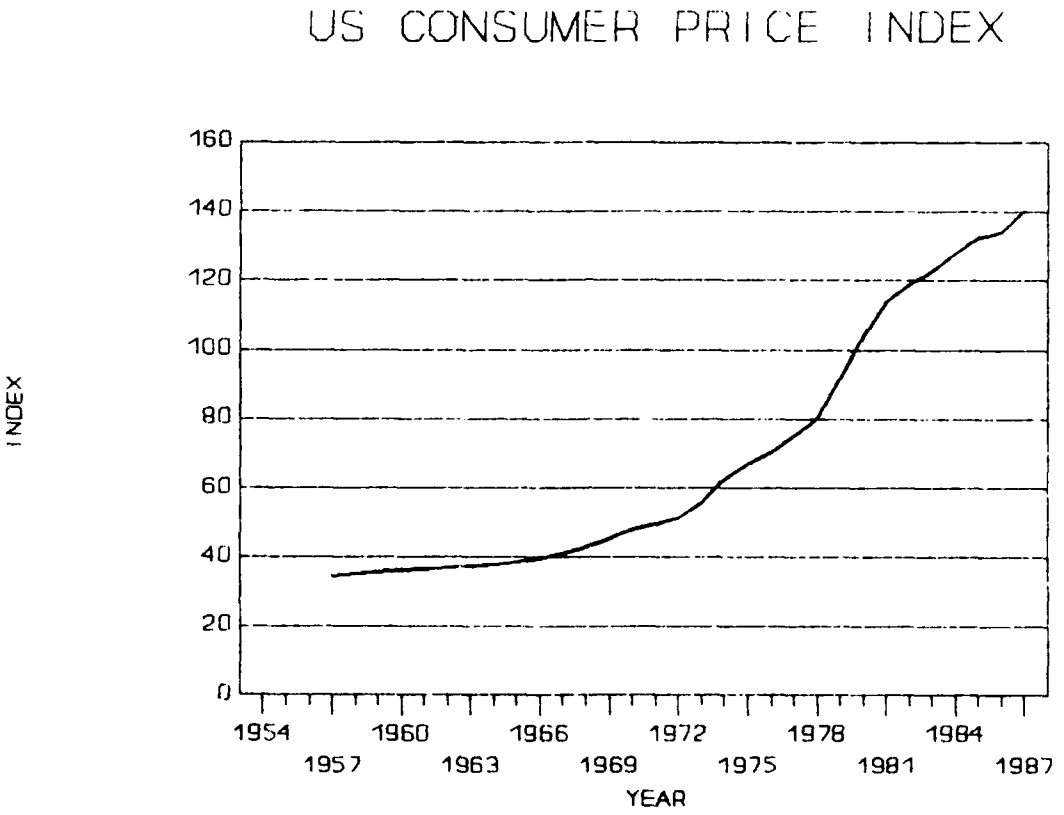


Figure C-6.3
Source: See Table C-6.

TAble C-7

CONSTRUCTION INDUSTRY

YEAR	**CORPORATE UNDISTRIBUTED PROFITS (BILL)	*CORPORATE PROFITS (MILLIONS)	*INDUSTRY INCOME (BILLIONS)	*PROPRIETORS INCOME (MILLIONS)
1954	0.26	327	16.50	3385
1955	0.21	283	17.60	3681
1956	0.39	464	19.70	3895
1957	0.42	505	20.60	4188
1958	0.40	465	20.10	4016
1959	0.34	438	21.90	4416
1960	0.16	269	22.50	4426
1961	0.22	345	23.40	4827
1962	0.42	535	25.10	5058
1963	0.46	588	26.80	5368
1964	0.66	835	29.40	5835
1965	0.86	1073	32.30	6329
1966	1.02	1173	35.30	6669
1967	1.10	1334	36.90	6833
1968	1.20	1413	40.40	7249
1969	1.07	1345	45.10	7739
1970	1.03	1268	47.40	7755
1971	1.27	1518	52.10	9008
1972	1.19	1422	57.90	10953
1973	1.16	1428	64.70	11871
1974	1.24	1610	68.40	12816
1975	1.67	2049	69.90	13332
1976	2.01	2390	79.30	17724
1977	3.09	3514	90.40	20677
1978	3.91	4394	106.70	24819
1979	3.68	4122	121.40	26673
1980	3.75	4394	126.60	26300
1981	1.84	2509	126.50	23053
1982	1.20	1798	127.90	25014
1983	1.15	2079	135.50	30057
1984	2.58	2951	155.50	35021
1985	2.46	3875	169.10	36023
1986	2.76	4817	185.10	41133
1987		4894	196.70	44413

SOURCE: * National Income & Product Accounts Tables, Section 6, Superintendent of Documents, US Government Printing Office Washington DC, 1988.
** Wharton Econometrics Forecasting Associates Group, Tables from 3rd floor Georgia Tech Price Gilbert Library.

Table C-8

CONSTRUCTION INDUSTRY

YEAR	*EMPLOYEE COMPENSATION	*WAGES & SALARY (MILLIONS)	*FULL & PART-TIME EMPLOYEES (THOUSANDS)	AVG WKLY HRS PRODUCTION PER CONSTRUCTION ** WORKER
1954	12452	11707	2729	37.15
1955	13408	12596	2879	36.99
1956	14919	14019	3025	37.34
1957	15342	14341	2945	36.97
1958	15152	14349	2865	36.67
1959	16623	15603	3001	36.96
1960	17246	16129	2969	36.56
1961	17716	16491	2946	36.86
1962	18969	17627	3024	36.81
1963	20279	18704	3112	37.14
1964	22116	20455	3234	37.09
1965	24167	22294	3382	37.35
1966	26675	24496	3485	37.58
1967	27800	25543	3441	37.62
1968	31136	28479	3570	37.22
1969	35165	32231	3738	37.83
1970	37469	34147	3676	37.31
1971	40748	37052	3735	37.10
1972	44474	40182	3927	36.57
1973	50560	45126	4217	36.69
1974	53985	47892	4151	36.61
1975	52860	46285	3675	36.33
1976	57883	49988	3728	36.77
1977	64701	55219	4006	36.47
1978	76048	64626	4434	36.70
1979	88107	74526	4690	36.97
1980	92672	78111	4466	37.02
1981	97859	82297	4305	36.89
1982	97703	81588	4003	36.70
1983	100485	83151	4057	37.09
1984	113890	93781	4521	37.72
1985	124640	102890	4814	37.65
1986	133780	110236	4966	
1987	142167	117465	5078	

SOURCE: * National Income & Product Accounts Tables, Section 6, Superintendent of Documents, US Government Printing Office, Washington DC, 1988.
** Wharton Econometrics Forecasting Associates Group, Tables from 3rd floor Georgia Tech Price Gilbert Library.

Table C-9

YEARS	VALUE OF NEW CONSTRUCTION PUT IN PLACE: RESIDENTIAL CURRENT $ BIL	VALUE OF NEW CONSTRUCTION PUT IN PLACE: NONRESIDENTIAL CURRENT $ BIL	TOTAL CONSTRUCTION IN PLACE CURRENT $ BIL
1954	28.09		
1955	33.02		
1956	29.65		
1957	27.77		
1958	28.92		
1959	35.44		
1960	33.39		
1961	33.58		
1962	36.36		
1963	40.63		
1964	111.89	52.37	164.25
1965	107.24	63.22	170.46
1966	96.98	66.60	163.58
1967	94.37	61.93	156.30
1968	106.28	59.94	166.22
1969	108.94	64.35	173.28
1970	102.28	60.95	163.24
1971	130.48	58.79	189.26
1972	152.58	59.96	212.54
1973	148.98	63.81	212.78
1974	117.94	58.27	176.21
1975	99.13	49.04	148.17
1976	120.08	46.14	166.22
1977	149.06	47.11	196.18
1978	155.72	53.61	209.33
1979	145.42	62.88	208.30
1980	113.84	63.83	177.67
1981	102.97	67.76	170.72
1982	85.38	69.33	154.70
1983	123.10	63.23	186.34
1984	146.09	74.88	220.98
1985	146.32	85.55	231.87
1986			
1987			
1988			

Source: Wharton Econometrics Forecasting Associates Group, Tables from 3rd floor Georgia Tech Price Gilbert Library.

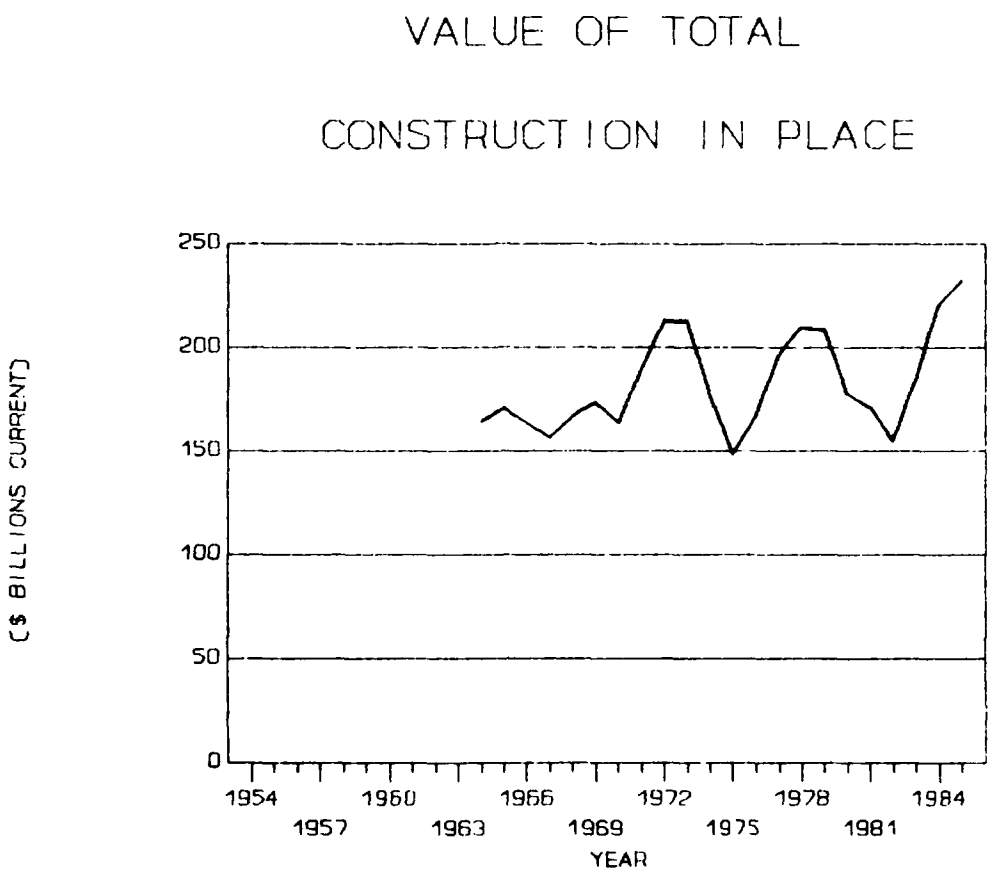


Figure C-9.1 Value Of Total Construction In Place
Source: Table C-9

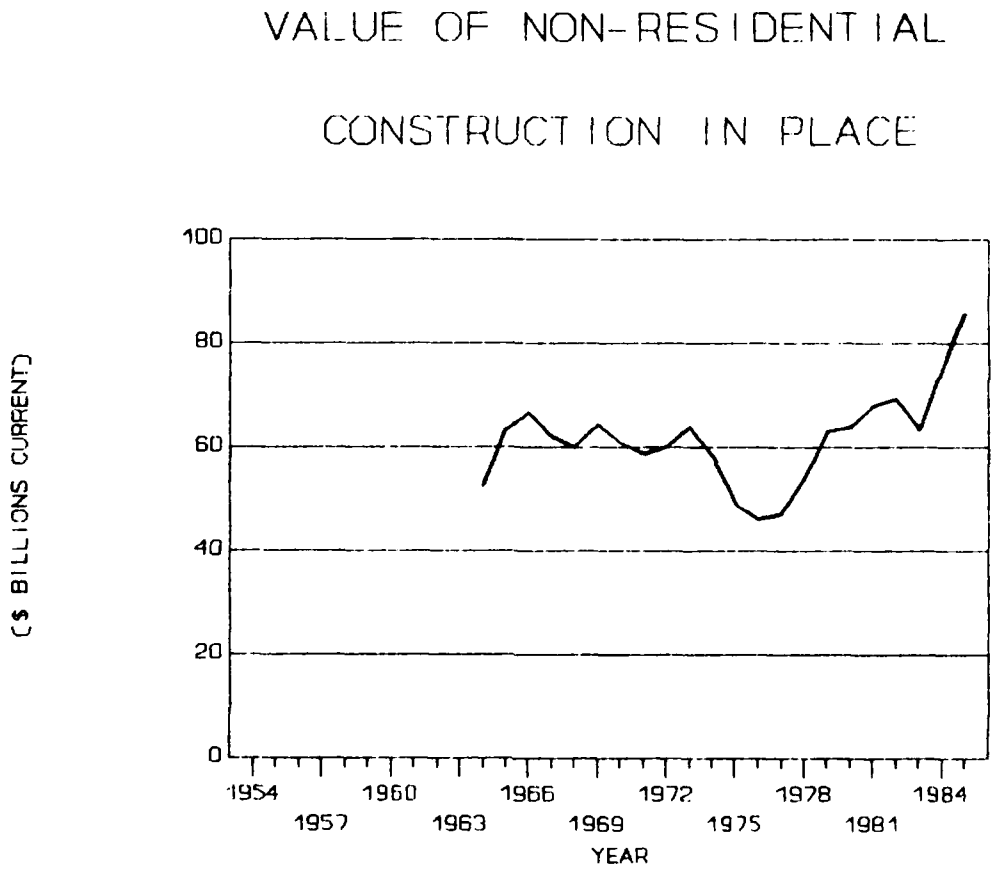


Figure C-9.2 Value of Non-Residential Construction In Place
Source: Table C-9

Table C-10

CONSTRUCTION FIRM FAILURES BY AGE OF FIRM

	YEARS AFTER COMPANY BEGINNING										
YEAR	1	2	3	4	5	6	7	8	9	10	> 10
1951	1.5	14.4	16.8	13.0	12.7	14.1	8.9	3.5	2.1	1.5	11.5
1960	2.3	13.3	15.4	10.8	9.6	8.7	7.0	4.9	4.0	3.2	20.8
1961	1.6	10.9	15.8	12.1	9.0	7.8	6.6	5.1	4.8	3.7	22.6
1965	1.2	10.3	15.8	12.3	10.6	7.8	6.9	4.7	3.5	3.5	23.4
1966	1.4	9.0	15.4	12.8	10.3	8.4	6.4	5.0	4.9	4.1	22.3
1968	1.0	7.6	11.8	12.6	10.4	8.6	6.9	4.9	5.4	3.7	27.1
1969	1.4	8.6	11.8	11.0	10.1	8.4	8.1	6.0	5.2	4.3	25.1
1972	1.3	10.3	14.8	12.4	8.8	7.7	6.2	5.1	5.2	3.5	24.7
1974	0.9	10.6	17.5	15.2	10.8	8.0	6.3	4.3	2.8	2.7	20.9
1975	0.4	7.5	14.9	15.8	11.6	9.3	6.7	5.9	3.6	2.5	21.8
1976	0.8	5.2	10.6	14.6	15.1	9.7	8.0	5.5	4.8	2.9	22.8
1978	0.5	6.4	13.6	14.0	11.2	10.0	9.3	5.8	4.9	3.4	20.9
1979	0.6	6.0	13.4	13.8	13.6	9.0	7.9	6.9	4.6	3.6	20.6
1984	9.2	9.2	9.0	9.1	8.0	8.5	7.0	6.1	4.5	3.9	25.5
1985	8.6	11.3	9.0	7.3	7.9	7.1	6.4	6.4	5.8	4.6	25.6
1986	8.1	10.8	10.7	7.5	6.8	7.0	6.1	6.0	5.3	5.4	26.3
1987	5.9	8.3	9.0	9.6	7.8	6.5	6.3	4.9	5.9	5.3	30.5
1988	5.1	8.1	9.5	9.8	8.7	6.8	5.4	5.1	4.5	4.6	32.4
TOTAL	51.8	167.8	234.8	213.7	183	153.4	126.4	96.1	81.8	66.4	424.8

Note: Not all years are represented in this table due to lack of available data.

Source: Dun & Bradstreet, **Business Failure Record**, various years through 1988.

Table C-11

Construction Firm Failure Rates

Number Failures per 10,000 Firms

Year	1950	1960	1970	1984	1985	1986	1987	1988
GC & Operative Builder				106	115	108	93	97
Contr other than Bldgs.				136	115	114	97	93
Specialty Contractors				113	104	107	90	92
Overall Rate	103	199	116	112	109	108	92	94

Source: Years 1950,60 and 70 are actually 10 year averages from [Platt85]. The new format of Dun & Bradstreet Failure Report provided years 1984-1988.

APPENDIX D

Dun & Bradstreet Causes For Failure

This appendix contains excerpts from the Dun & Bradstreet Business Failure Records of 1987 and 1966. The pages concerning causes for business failures from each are reproduced and provided here to afford the reader a better understanding of the discussion in chapter 4 on the way Dun & Bradstreet categorizes business failures.

1987 DUN & BRADSTREET

	Agriculture, forestry & fishing	Mining	Construction	Manufacturing	Transportation & public utilities	Wholesale trade	Retail trade	Finance, insurance & real estate	Services	Total
Neglect Causes	**2.2%**	**0.8%**	**1.9%**	**1.9%**	**1.6%**	**2.0%**	**2.0%**	**1.1%**	**1.1%**	**1.6%**
Bad habits	19.0%	20.0%	27.4%	33.0%	29.8%	33.6%	19.8%	21.4%	25.9%	25.4%
Business conflicts	3.6%	60.0%	10.7%	18.3%	21.6%	25.6%	15.0.%	28.7%	13.6%	15.1%
Family problems	7.1%	0.0%	9.2%	7.3%	10.8%	4.7%	8.5%	10.7%	10.9%	8.8%
Lack of interest	52.4%	0.0%	19.8%	24.4%	16.2%	11.6%	22.3%	14.3%	14.3%	21.0%
Marital problems	4.8%	0.0%	11.5%	6.1%	8.1%	10.5%	10.9%	7.1%	9.7%	9.4%
Occupational conflicts	3.6%	0.0%	2.3%	2.4%	2.7%	3.5%	8.5%	7.1%	8.5%	5.9%
Poor health	9.5%	20.0%	19.1%	8.5%	10.8%	10.5%	15.0%	10.7%	17.1%	14.4%
Disaster Causes	**0.2%**	**0.2%**	**0.4%**	**0.6%**	**0.3%**	**0.6%**	**0.6%**	**0.2%**	**0.2%**	**0.4%**
Act of God	50.0%	0.0%	11.5%	14.3%	42.8%	4.2%	8.2%	0.0%	20.9%	13.9%
Burglary	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	5.5%	0.0%	2.3%	2.8%
Employee fraud	0.0%	0.0%	7.7%	3.6%	14.3%	0.0%	4.1%	0.0%	2.3%	3.7%
Fire	25.0%	0.0%	11.5%	28.6%	14.3%	29.2%	50.7%	16.7%	42.0%	35.6%
Death of owner	25.0%	100.0%	69.3%	53.5%	28.6%	58.2%	31.5%	83.3%	30.2%	43.1%
Strike	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	0.0%	0.0%	2.3%	0.9%
Fraud Causes	**0.1%**	**0.5%**	**0.2%**	**0.6%**	**0.4%**	**0.5%**	**0.4%**	**1.0%**	**0.1%**	**0.3%**
Embezzlement	0.0%	33.4%	27.4%	15.4%	30.0%	22.7%	13.5%	28.0%	21.4%	20.0%
False agreement	0.0%	33.3%	0.0%	19.2%	10.0%	4.5%	11.5%	8.0%	10.7%	10.6%
False statement	0.0%	33.3%	9.1%	11.5%	10.0%	0.0%	5.8%	4.0%	10.7%	7.2%
Irregular disposal of assets	100.0%	0.0%	27.3%	30.9%	40.0%	31.9%	30.8%	44.0%	35.8%	33.9%
Misleading name	0.0%	0.0%	27.3%	11.5%	10.0%	13.6%	5.8%	8.0%	10.7%	10.0%
Premeditated overbuy	0.0%	0.0%	9.1%	11.5%	0.0%	27.3%	32.6%	8.0%	10.7%	18.3%
Economic Factors Causes	**83.3%**	**85.0%**	**72.8%**	**67.7%**	**70.2%**	**70.7%**	**71.2%**	**68.1%**	**71.4%**	**71.7%**
Insufficient profits	71.1%	76.2%	73.5%	74.2%	71.7%	72.1%	71.1%	73.1%	79.9%	75.2%
High interest rates	4.7%	0.2%	0.4%	0.2%	0.4%	0.2%	0.1%	0.5%	1.3%	1.0%
Loss of market	2.8%	11.9%	7.4%	7.8%	5.9%	7.8%	5.9%	9.3%	4.0%	5.5%
No consumer spending	11.1%	4.3%	9.7%	5.2%	12.0%	6.0%	13.3%	9.7%	7.6%	9.3%
No future	10.3%	7.4%	9.0%	12.6%	10.0%	13.9%	9.6%	7.4%	7.2%	9.0%
Experience Causes	**12.6%**	**10.5%**	**19.4%**	**18.4%**	**19.8%**	**17.1%**	**20.1%**	**14.6%**	**23.0%**	**20.3%**
Incompetence	63.0%	32.3%	47.1%	46.1%	50.6%	41.8%	44.6%	41.5%	33.1%	39.7%
Lack of line experience	3.0%	12.3%	6.7%	11.2%	10.1%	12.0%	14.2%	14.2%	13.3%	11.8%
Lack of managerial experience	14.8%	33.9%	18.8%	12.3%	17.1%	12.3%	16.6%	12.9%	9.3%	12.6%
Unbalanced experience	19.2%	21.5%	27.4%	30.4%	22.2%	33.9%	24.6%	31.4%	44.3%	35.9%
Sales Causes	**5.5%**	**6.6%**	**11.9%**	**10.4%**	**12.1%**	**10.2%**	**13.0%**	**8.3%**	**11.6%**	**11.1%**
Competitively weak	8.6%	2.4%	20.4%	15.8%	26.1%	17.8%	24.5%	17.5%	12.4%	17.3%
Economic decline	49.8%	73.2%	33.3%	21.8%	29.8%	26.2%	23.6%	30.3%	28.2%	28.2%
Inadequate sales	41.6%	24.4%	46.0%	60.0%	42.2%	53.2%	47.8%	52.2%	58.8%	52.9%
Inventory difficulties	0.0%	0.0%	0.0%	2.2%	1.5%	2.3%	1.6%	0.0%	0.2%	0.8%
Poor location	0.0%	0.0%	0.3%	0.2%	0.4%	0.5%	2.5%	0.0%	0.4%	[illegible]
Expenses Causes	**5.3%**	**3.5%**	**6.0%**	**6.4%**	**6.3%**	**5.6%**	**5.8%**	**5.5%**	**10.6%**	**8.1%**
Burdensome institutional debt	78.0%	31.8%	34.4%	53.3%	35.5%	46.9%	47.5%	46.8%	49.8%	46.4%
Heavy operating expenses	22.0%	68.2%	65.6%	46.7%	64.5%	53.1%	52.5%	53.2%	50.2%	53.6%
Customer Causes	**0.1%**	**0.0%**	**0.8%**	**0.8%**	**0.7%**	**0.7%**	**0.3%**	**0.2%**	**0.4%**	**0.4%**
Receivables difficulties	25.0%	0.0%	80.8%	66.7%	53.3%	89.7%	28.2%	75.0%	28.2%	52.7%
Too few customers	75.0%	0.0%	19.2%	33.3%	46.7%	10.3%	71.8%	25.0%	71.8%	47.3%
Assets Causes	**1.2%**	**0.0%**	**0.2%**	**0.2%**	**0.2%**	**0.2%**	**0.3%**	**0.2%**	**0.1%**	**0.2%**
Excessive fixed assets	6.7%	0.0%	8.3%	33.3%	25.0%	25.0%	8.8%	60.0%	7.4%	12.5%
Over expansion	93.3%	0.0%	91.7%	66.7%	75.0%	75.0%	91.2%	40.0%	92.6%	87.5%
Capital Causes	**0.4%**	**0.3%**	**0.6%**	**0.6%**	**0.6%**	**0.5%**	**0.7%**	**0.5%**	**0.2%**	**0.5%**
Burdensome contracts	12.5%	50.0%	33.3%	22.2%	15.4%	8.7%	14.0%	50.0%	8.5%	17.6%
Excessive withdrawals	68.7%	0.0%	25.6%	22.2%	15.4%	39.1%	34.9%	25.0%	39.0%	33.8%
Inadequate start capacity	18.8%	50.0%	41.1%	55.6%	69.2%	52.2%	51.1%	25.0%	52.5%	48.6%

Due to the fact that some failures are attributed to a combination of causes, the total of the major categories exceeds 100%.
The individual major cause total was used to achieve the percents in the minor categories.
[illegible]

NESSES FAIL IN 1966?

informed creditors and information in Dun & Bradstreet Credit Reports

PERCENT

APPARENT CAUSES		MANUFACTURERS	WHOLESALERS	RETAILERS	CONSTRUCTION	COMMERCIAL SERVICE	TOTAL ALL CONCERNS
Due to	Bad Habits	0.2	0.5	0.7	0.6	0.8	0.6
	Poor Health	1.2	2.0	1.6	1.3	1.6	1.5
	Marital Difficulties	0.2	0.5	0.6	0.8	0.8	0.6
	Other	0.3	0.9	0.5	0.3	0.2	0.4
On the part of the principals, reflected by	Misleading Name	—	0.2	0.0	—	0.1	0.1
	False Financial Statement	0.3	0.4	0.3	0.4	0.1	0.3
	Premeditated Overbuy	0.1	0.6	0.1	0.0	—	0.1
	Irregular Disposal of Assets	1.3	1.5	0.6	0.6	0.1	0.7
	Other	0.1	0.2	0.2	0.3	—	0.2
Evidenced by inability to avoid conditions which resulted in	Inadequate Sales	42.6	43.2	46.6	23.5	42.1	40.8
	Heavy Operating Expenses	14.3	9.8	5.2	33.6	15.0	13.4
	Receivables Difficulties	14.5	18.1	5.7	14.5	6.4	9.9
	Inventory Difficulties	4.0	7.2	8.5	2.5	1.2	5.8
	Excessive Fixed Assets	6.7	2.3	3.3	3.5	8.1	4.2
	Poor Location	1.1	1.7	6.1	0.7	3.2	3.6
	Competitive Weakness	21.0	20.2	26.1	22.8	25.2	24.1
	Other	6.9	5.7	3.0	4.3	2.6	4.0
Some of these occurrences could have been provided against through insurance	Fire	0.5	0.4	0.6	0.2	0.2	0.4
	Flood	0.1	—	0.0	—	0.1	0.0
	Burglary	0.1	—	0.2	—	0.1	0.1
	Employees' Fraud	—	0.3	0.0	0.0	0.1	0.1
	Strike	0.2	0.1	0.0	0.0	—	0.1
	Other	0.5	0.3	0.3	0.2	0.3	0.3
	PER CENT OF TOTAL FAILURES	14.2	9.6	46.5	19.2	10.5	100.0

Because some failures are attributed to a combination of apparent causes, the totals of these columns exceed the totals of the corresponding columns on the left.